

TOSHIBA

FILE NO. 810-200108

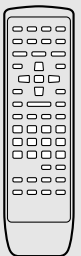
SERVICE MANUAL



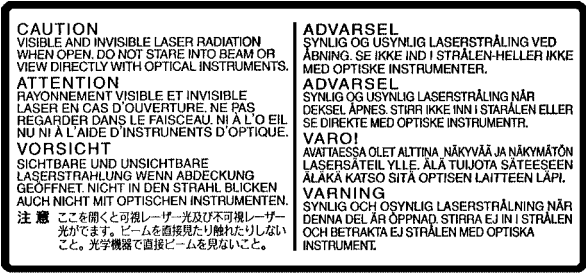
DVD VIDEO PLAYER

SD-3750

SD-K700



LASER BEAM CAUTION LABEL



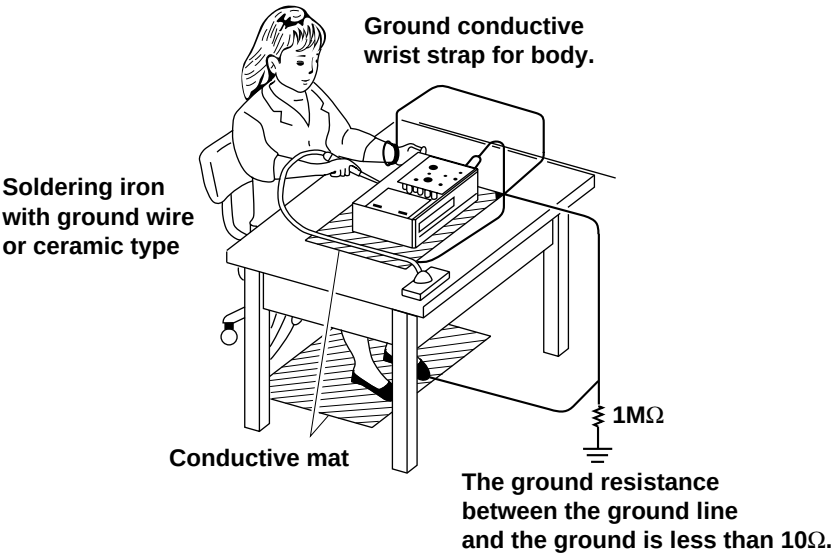
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of a laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity.

And also, the LSI and IC are same as above.



SAFETY NOTICE

SAFETY PRECAUTIONS

LEAKAGE CURRENT CHECK

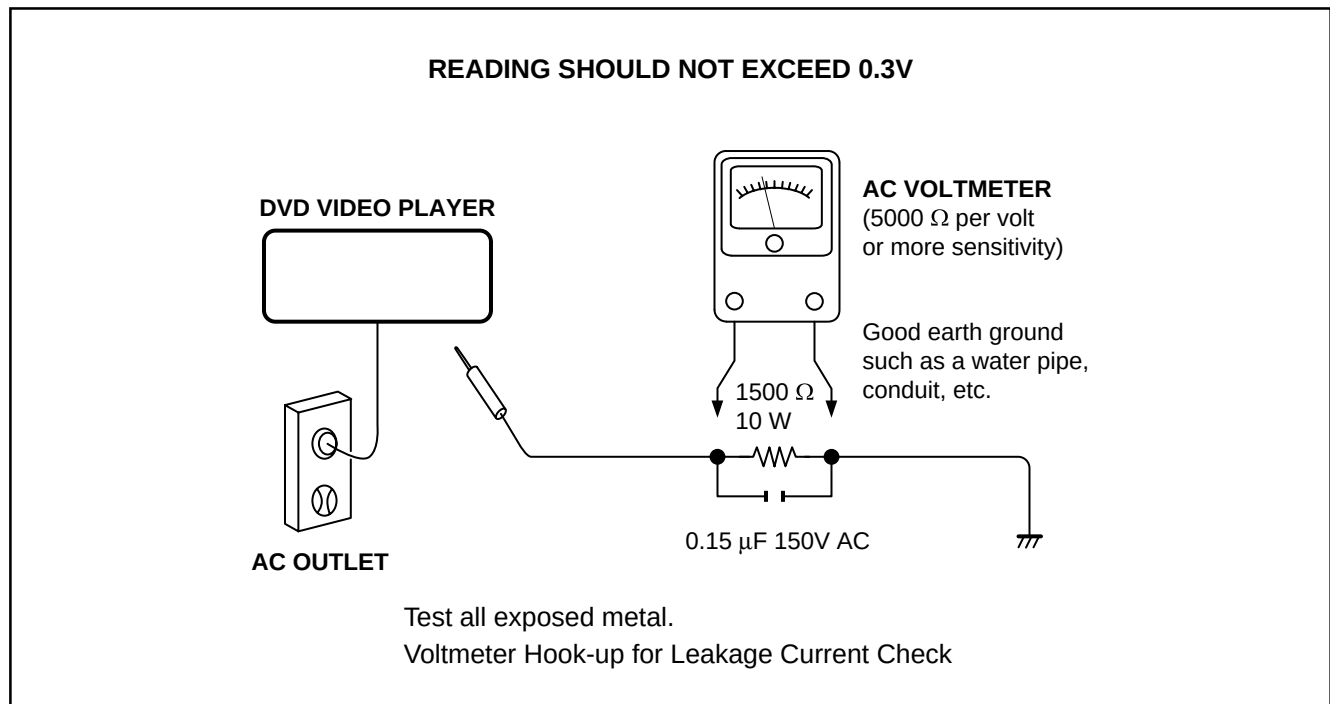
Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having $5000\ \Omega$ per volt or more sensitivity. Connect a $1500\ \Omega$ 10 W resistor, paralleled by a $0.15\ \mu\text{F}$ 150V AC capacitor between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

Measure the AC voltage across the $1500\ \Omega$ resistor.

The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3 V. A reading exceeding 0.3 V indicates that a dangerous potential exists, the fault must be located and corrected.

Repeat the above test with the DVD VIDEO PLAYER power plug reversed.

NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CONTENTS

SECTION 1 GENERAL DESCRIPTIONS

- | | |
|---|---|
| <ul style="list-style-type: none">1. OPERATING INSTRUCTIONS<ul style="list-style-type: none">Specifications2. LOCATION OF MAIN PARTS AND MECHANISM PARTS<ul style="list-style-type: none">2-1. Location of Main Parts2-2. Location of Mechanism Parts | <ul style="list-style-type: none">3. TROUBLESHOOTING<ul style="list-style-type: none">3-1. Main Circuit3-1-1. Servo System3-1-2. Location Diagram of Servo Test Point |
|---|---|

SECTION 2 PART REPLACEMENT AND ADJUSTMENT PROCEDURES

- | | |
|--|--|
| <ul style="list-style-type: none">1. REPLACEMENT OF MECHANICAL PARTS<ul style="list-style-type: none">1-1. Cabinet Replacement<ul style="list-style-type: none">1-1-1. Top Cover1-1-2. Clamper Stay1-1-3. Tray Panel1-1-4. Front Panel and Tray1-1-5. Rear Panel1-2. PC Board Replacement<ul style="list-style-type: none">1-2-1. Main PC Board1-2-2. Output PC Board1-2-3. Power Supply PC board | <ul style="list-style-type: none">1-2-4. Front PC Board1-3. Mechanism Parts<ul style="list-style-type: none">1-3-1. Mechanism Chassis Assembly1-3-2. Loading Belt1-3-3. Loading Motor1-3-4. Sub Chassis (with a pickup mechanism)1-3-5. Pickup Mechanism Assembly1-3-6. Gear B Assembly, Gear A and Rack Gear Assembly1-3-7. Feed Motor |
|--|--|

SECTION 3 SERVICING DIAGRAMS

- | | |
|---|---|
| <ul style="list-style-type: none">1. STANDING PC BOARDS FOR SERVICING2. CIRCUIT SYMBOLS AND SUPPLEMENTARY EXPLANATION<ul style="list-style-type: none">2-1. Precautions for Part Replacement2-2. Solid Resistor Indication2-3. Capacitance Indication2-4. Inductor Indication2-5. Waveform and Voltage Measurement2-6. Others3. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM4. BLOCK DIAGRAMS<ul style="list-style-type: none">4-1. Overall Block Diagram4-2. Power Supply Block Diagram4-3. Front Display, Power Switch Block Diagram4-4. Main Block Diagrams4-5. Output Block Diagram | <ul style="list-style-type: none">5. CIRCUIT DIAGRAMS<ul style="list-style-type: none">5-1. Power Supply Circuit Diagram5-2. Front Display, Power Switch Circuit Diagram5-3. Main Circuit Diagrams5-4. Output Circuit Diagram5-5. Motor System Circuit Diagrams6. PC BOARDS<ul style="list-style-type: none">6-1. Power Supply PC Board6-2. Power Switch PC Board6-3. Main PC Board6-4. Output PC Board6-5. Front Display PC Board |
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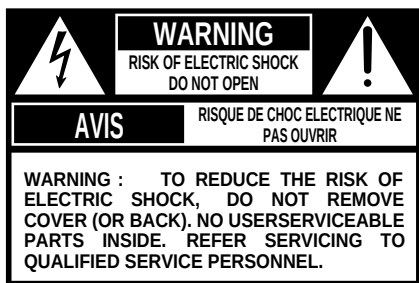
SECTION 4 PARTS LIST

- | | |
|---|--|
| <ul style="list-style-type: none">SAFETY PRECAUTIONNOTICEABBREVIATIONS<ul style="list-style-type: none">1. Integrated Circuit (IC)2. Capacitor (Cap)3. Resistor (Res) | <ul style="list-style-type: none">4. EXPLODED VIEWS<ul style="list-style-type: none">4-1. Packing Assembly4-2. Chassis Assembly4-3. Mechanism Assembly5. PARTS LIST |
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SECTION 1 GENERAL DESCRIPTIONS

1. OPERATING INSTRUCTIONS

SAFETY PRECAUTIONS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



The symbol for CLASS II (Double Insulation)

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR EVITER LES CHOCs ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

CAUTION: This Digital Video Disc Player employs a Laser System.
To ensure proper use of this product, please read this owner's manual carefully and retain for future reference. Should the unit require maintenance, contact an authorized service location - see service procedure.

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

To prevent direct exposure to laser beam, do not try to open the enclosure.
Visible and invisible laser radiation when open and interlocks defeated.
DO NOT STARE INTO BEAM.

FCC NOTICE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rule. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING: Changes or modifications made to this equipment, not expressly approved by Toshiba, or parties authorized by Toshiba, could void the user's authority to operate the equipment.

The instructions shall state that an ALL-POLE MAINS SWITCH with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

In the spaces provided below, record the Model and Serial No. located on the rear panel of your DVD player.

Model No. _____

Serial No. _____

Retain this information for future reference.

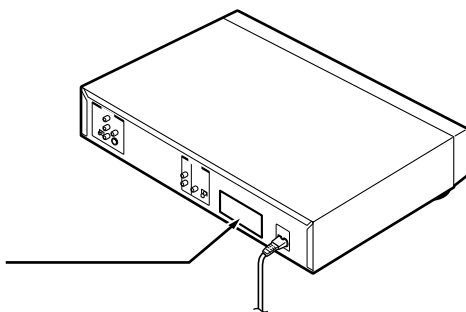
Location of the required label

PRODUCT IS CERTIFIED BY THE MANUFACTURER TO
COMPLY WITH DHHS RULE 21 CFR SUBCHAPTER J
APPLICABLE AT THE DATE OF MANUFACTURE.

MANUFACTURED

TOSHIBA CORPORATION

1-1, SHIBAURA 1-CHOME, MINATO-KU.
TOKYO 105-8001, JAPAN



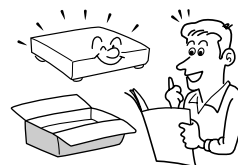
IMPORTANT SAFETY INSTRUCTIONS

CAUTION: PLEASE READ AND OBSERVE ALL WARNINGS AND INSTRUCTIONS GIVEN IN THIS OWNER'S MANUAL AND THOSE MARKED ON THE UNIT. RETAIN THIS BOOKLET FOR FUTURE REFERENCE.

This set has been designed and manufactured to assure personal safety. Improper use can result in electric shock or fire hazard. The safeguards incorporated in this unit will protect you if you observe the following procedures for installation, use and servicing. This unit is fully transistorized and does not contain any parts that can be repaired by the user.

DO NOT REMOVE THE CABINET COVER, OR YOU MAY BE EXPOSED TO DANGEROUS VOLTAGE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.

1. Read these instructions.

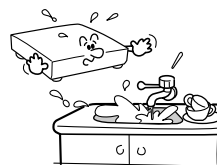


2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this apparatus near water.



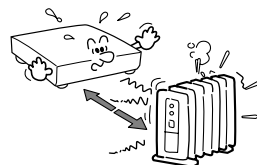
6. Clean only with dry cloth.



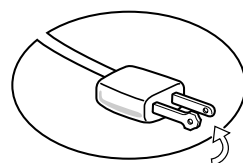
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.



8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.



9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.



10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.



11. Only use attachments/accessories specified by the manufacturer.

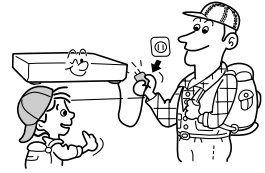
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



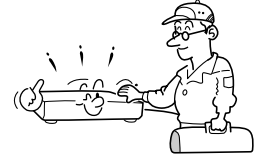
53125A

IMPORTANT SAFETY INSTRUCTIONS

13. Unplug this apparatus during lightning storms or when unused for long periods of time.



14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



15. When you use headphones, keep the volume at a moderate level. If you use the headphones continuously with high volume sound, it may cause hearing damage.



16. Do not overload wall outlets; extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.



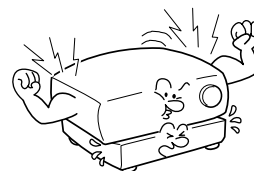
17. Never insert objects of any kind into this apparatus through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the apparatus.



18. Keep your fingers well clear of the disc tray as it is closing. Neglecting to do so may cause serious personal injury.



19. Do not place a heavy object on or step on the apparatus. The object may fall, causing serious personal injury and serious damage to the apparatus.



20. Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and apparatus malfunction.



Precautions

Notes on handling

- When shipping the DVD player, the original shipping carton and packing materials come in handy. For maximum protection, repack the unit as it was originally packed at the factory.
- Do not use volatile liquids, such as insect spray, near the DVD player. Do not leave rubber or plastic products in contact with the DVD player for a long time. They will leave marks on the finish.
- The top and rear panels of the DVD player may become warm after a long period of use. This is not a malfunction.
- When the DVD player is not in use, be sure to remove the disc and turn off the power.
- If you do not use the DVD player for a long period, the unit may not function properly in the future. Turn on and use the DVD player occasionally.

Notes on locating

- Place the DVD player on a level surface. Do not use it on a shaky or unstable surface such as a wobbling table or inclined stand. The loaded disc may come off the proper position and cause damage to the DVD player.
- When you place this DVD player near a TV, radio, or VCR, the playback picture may become poor and the sound may be distorted. In this case, place the DVD player away from the TV, radio, or VCR.

Notes on cleaning

Use a soft, dry cloth for cleaning.

- For stubborn dirt, soak the cloth in a weak detergent solution, wring well and wipe. Use a dry cloth to wipe it dry.
Do not use any type of solvent, such as thinner and benzene, as they may damage the surface of the DVD player.
- If you use a chemical saturated cloth to clean the unit, follow that product's instructions.

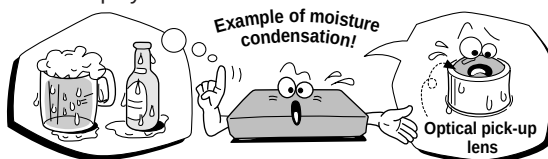
To obtain a clear picture

The DVD player is a high technology, precision device. If the optical pick-up lens and disc drive parts are dirty or worn down, the picture quality becomes poor. To obtain a clear picture, we recommend regular inspection and maintenance (cleaning or parts replacement) every 1,000 hours of use depending on the operating environment. For details, contact your nearest dealer.

Notes on moisture condensation

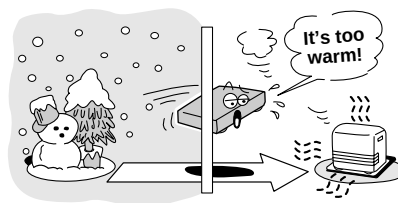
Moisture condensation damages the DVD player. Please read the following carefully.

Moisture condensation occurs, for example, when you pour a cold drink into a glass on a warm day. Drops of water form on the outside of the glass. In the same way, moisture may condense on the optical pick-up lens inside this unit, one of the most crucial internal parts of the DVD player.



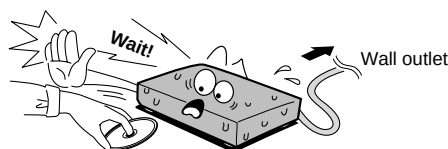
■ **Moisture condensation occurs during the following cases.**

- When you bring the DVD player directly from a cold place to a warm place.
- When you use the DVD player in a room where you just turned on the heater, or a place where the cold wind from the air conditioner directly hits the unit.
- In summer, when you use the DVD player in a hot and humid place just after you move the unit from an air conditioned room.
- When you use the DVD player in a humid place.



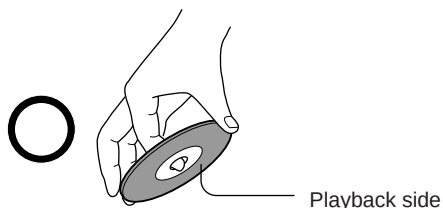
■ **Do not use the DVD player when moisture condensation may occur.**

If you use the DVD player in such a situation, it may damage discs and internal parts. Remove the disc, connect the power cord of the DVD player to the wall outlet, turn on the DVD player, and leave it for two or three hours. After two or three hours, the DVD player will have warmed up and evaporated any moisture. Keep the DVD player connected to the wall outlet and moisture condensation will seldom occur.



On handling discs

- Do not touch the playback side of the disc.

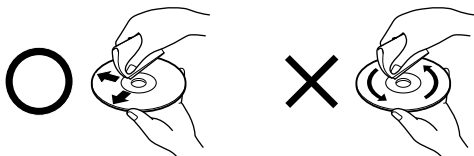


- Do not attach paper or tape to discs.



On cleaning discs

- Fingerprints and dust on the disc cause picture and sound deterioration. Wipe the disc from the center outwards with a soft cloth. Always keep the disc clean.



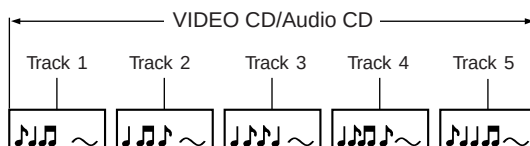
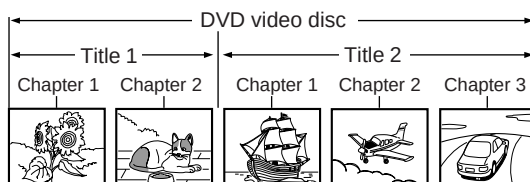
- If you cannot wipe off the dust with a soft cloth, wipe the disc lightly with a slightly moistened soft cloth and finish with a dry cloth.
- Do not use any type of solvent such as thinner, benzene, commercially available cleaners or antistatic spray for vinyl LPs. It may damage the disc.

On storing discs

- Do not store discs in a place subject to direct sunlight or near heat sources.
- Do not store discs in places subject to moisture and dust such as a bathroom or near a humidifier.
- Store discs vertically in a case. Stacking or placing objects on discs outside of their case may cause warping.

Structure of disc contents

Normally, DVD video discs are divided into titles, and the titles are sub-divided into chapters. VIDEO CDs/ audio CDs are divided into tracks.



Each title, chapter or track is assigned a number, which is called "title number", "chapter number" or "track number" respectively.

There may be discs that do not have these numbers.

Notes on copyright

It is forbidden by law to copy, broadcast, show, broadcast on cable, play in public, and rent copyrighted material without permission.

DVD video discs are copy protected, and any recordings made from these discs will be distorted.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Notes on Discs (continued)

About this owner's manual

This owner's manual explains the basic instructions of this DVD player. Some DVD video discs are produced in a manner that allows specific or limited operation during playback. As such, the DVD player may not respond to all operating commands. This is not a defect in the DVD player. Refer to instruction notes of discs.

"Ⓢ" may appear on the TV screen during operation. A "Ⓢ" means that the operation is not permitted by the DVD player or the disc.

Notes on region numbers

The region number of this DVD player is 1. If region numbers, which stand for their playable area, are printed on your DVD video disc and you do not find  or , disc playback will not be allowed by the player. (In this case, the DVD player will display a message on-screen.)

On VIDEO CDs

This DVD player supports VIDEO CDs equipped with the PBC (Version 2.0) function. (PBC is the abbreviation of Playback Control.) You can enjoy two playback variations depending on types of discs.

- **VIDEO CD not equipped with PBC function (Version 1.1)**
Sound and movie can be played on this DVD player in the same way as an audio CD.
- **VIDEO CD equipped with PBC function (Version 2.0)**
In addition to operation of a VIDEO CD not equipped with the PBC function, you can enjoy playback of interactive software with search function by using the menu displayed on the TV screen (Menu Playback). Some of the functions described in this owner's manual may not work with some discs.

Playable discs

This DVD player can play the following discs.

	Disc Mark	Contents	Disc Size
DVD video discs		video (moving pictures) + Audio	12 cm
			8 cm
VIDEO CDs		video (moving pictures) + Audio	12 cm
			8 cm
Audio CDs		Audio	12 cm
			8 cm (CD single)
The following discs are also available. ● DVD-R discs of DVD video format ● CD-R/CD-RW discs of CD-DA format Some of these discs may be incompatible.			

- You cannot play discs other than those listed above.
- You cannot play discs of DVD-RAM or non-standardized discs, etc., even if they may be labeled as above.
- This DVD player uses the NTSC color system, and cannot play DVD video discs recorded in any other color system (PAL, SECAM, etc.).

Table of Contents

Introduction

● SAFETY PRECAUTIONS	2
● IMPORTANT SAFETY INSTRUCTIONS ...	4
● Precautions	8
● Notes on Discs	9
Notes on region numbers	10
● Table of Contents	11
● Identification of Controls	12
Front panel	12
Rear panel	12
DVD display	13
Remote control	14
Loading batteries	15
Operating with the remote control	15

Connections

● Connecting to a TV	18
Connecting to a TV	18
Connecting to an audio system and TV equipped with component video inputs	19
● Connecting to Optional Equipment	20
Connecting to an amplifier equipped with a Dolby Digital decoder	21
Connecting to an amplifier equipped with Dolby Pro Logic Surround	21
Connecting to an amplifier equipped with a DTS decoder	22
Connecting to an amplifier equipped with an MPEG2 audio decoder	22
Connecting to an amplifier equipped with a digital audio input	23

Basic playback

● Playing a Disc	26
Basic playback	26
● Variable Speed Playback	28
Playing in fast reverse or fast forward directions	28
Playing frame by frame	28
Playing in slow-motion	29
Resuming playback from the same location ...	29
● Locating a Desired Section	30
Locating a title using the top menu	30
Locating a desired section by entering the corresponding number	31
Locating a specific chapter or track	31

Advanced playback

● Accessing a Specific Location Directly ..	34
Entering the time counter of the desired location	34
● Playing Repeatedly	35
Repeating a title, chapter, or track	35
Repeating a specific segment	35
● Playing in a Favorite Order	36
Setting titles, chapters, or tracks in a favorite order	36
● Playing in Random Order	37
Playing titles, chapters, or tracks in random order	37
● Zooming a Picture	38
Zooming a picture	38
● Selecting the Sound Enhancement (E.A.M.)	39
Selecting the sound enhancement	39
● Selecting the Camera Angle	40
Changing the camera angle	40
● Selecting Subtitles	41
Selecting a subtitle language	41
● Selecting a Language	42
Selecting a playback audio setting	42

Quick control

● Using the Graphic Remote Control - V-REMOTE -	46
● Selecting the Playback Function - QUICK -	47
● Accessing Features - NAVI -	48

Function setup

● Customizing the Function Settings	56
Setting procedure	56
Setting details	58
● Table of Languages	65

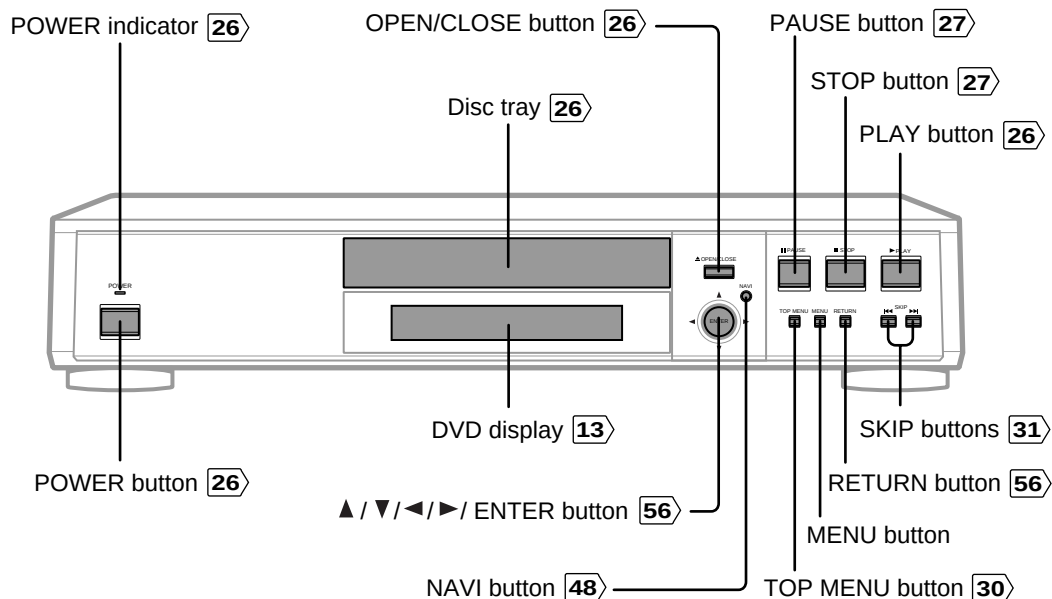
Others

● Before Calling Service Personnel	68
● Specifications	69
● LIMITED WARRANTY DVD PLAYER	70

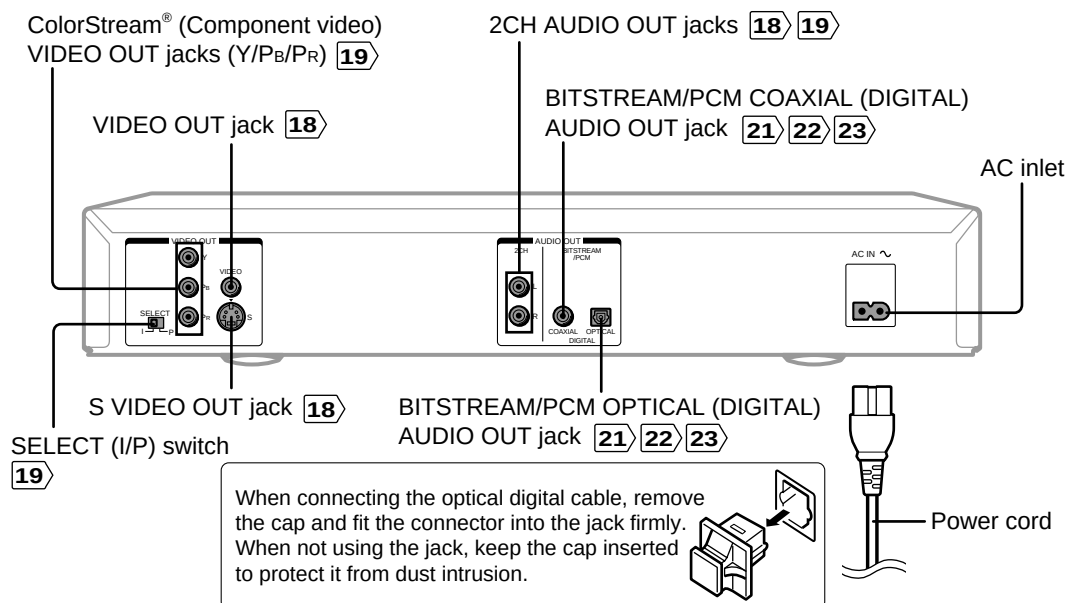
Identification of Controls

See the page in  for details.

Front panel

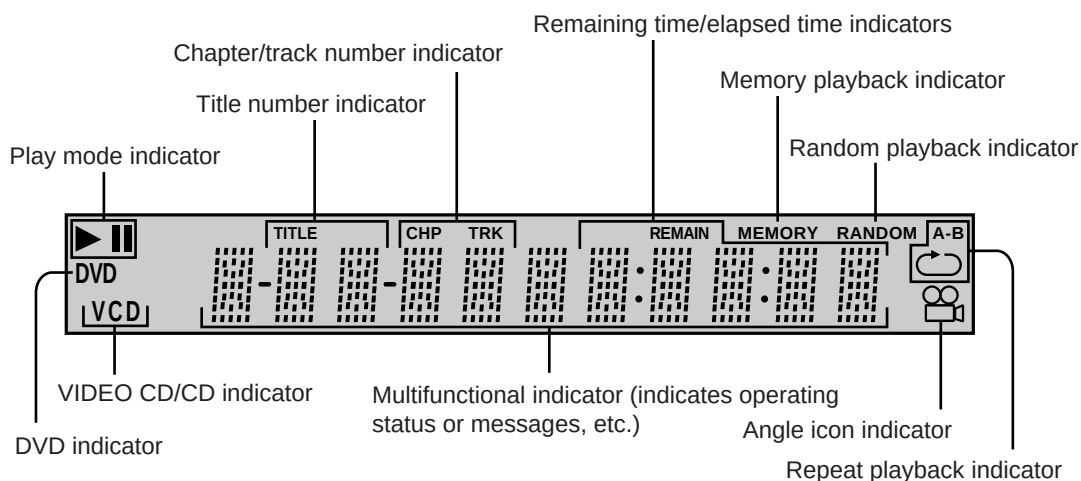
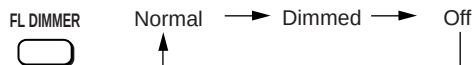


Rear panel



DVD display

- Repeated pressing of the FL DIMMER button on the remote control changes the brightness of the display.

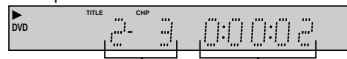


The indicators vary depending on the kinds of discs you play.

DVD video disc

- During playback:

Example



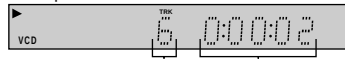
Playing chapter 3 Elapsed time of title 2

- Some discs may not display chapter numbers.
- A time indication not accompanied with a chapter number shows elapsed time of a segment within the current title.

VIDEO CD

- During playback:

Example



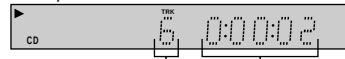
Playing track 6 Elapsed time of the current track

Some discs may not display track numbers or elapsed time.

Audio CD

- During playback:

Example

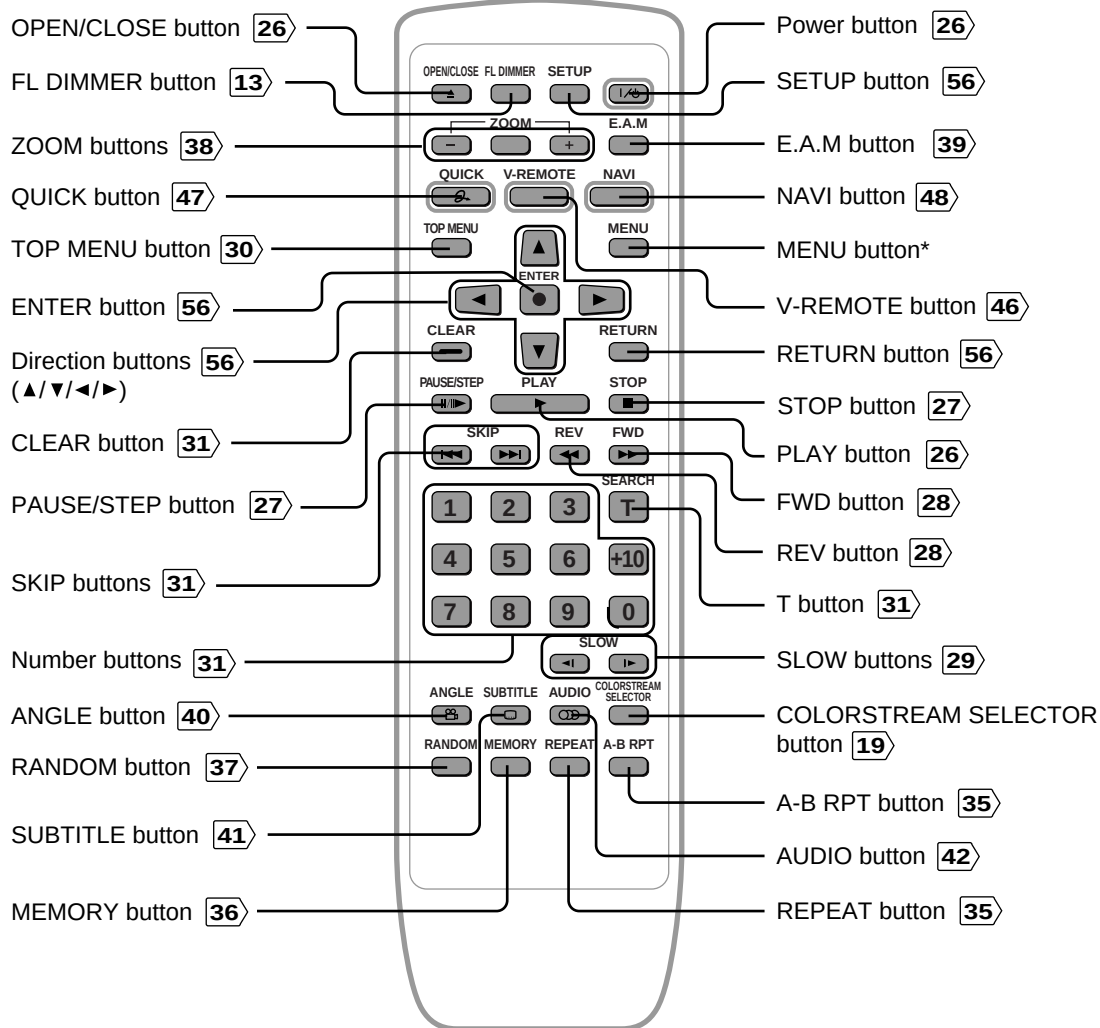


Playing track 6 Elapsed time of the current track

Identification of Controls (continued)

The instructions in this manual describe the functions on the remote control. See the page in  for details.

Remote control

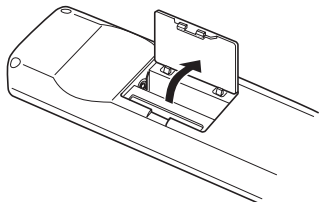


* MENU button

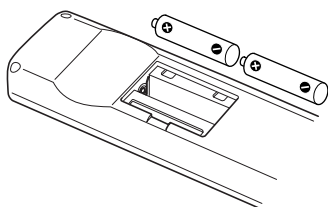
Use the MENU button to display the menu included on many DVD video discs. To operate a menu, follow the instructions in "Locating a title using the top menu." **30**

Loading batteries

1 Open the cover.

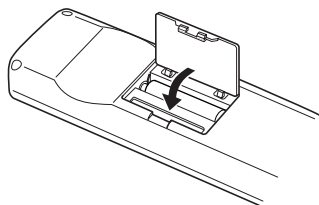


2 Insert batteries (AA size).



Make sure to match the + and – on the batteries to the marks inside the battery compartment.

3 Close the cover.



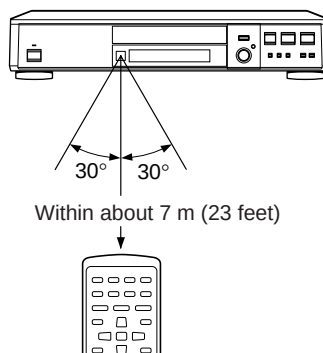
Notes on batteries

Improper use of batteries may cause battery leakage and corrosion. To operate the remote control correctly, follow the instructions below.

- Do not insert batteries into the remote control in the wrong direction.
- Do not charge, heat, open, or short-circuit the batteries. Do not throw batteries into a fire.
- Do not leave dead or exhausted batteries in the remote control.
- Do not use different types of batteries together, or mix old and new batteries.
- If you do not use the remote control for a long period of time, remove the batteries to avoid possible damage from battery corrosion.
- If the remote control does not function correctly or if the operating range becomes reduced, replace all batteries with new ones.
- If battery leakage occurs, wipe the battery liquid from the battery compartment, then insert new batteries.

Operating with the remote control

Point the remote control at the remote sensor and press the buttons.



Distance: About 7 m (23 feet) from the front of the remote sensor

Angle: About 30° in each direction of the front of the remote sensor

* Do not expose the remote sensor of the DVD player to a strong light source such as direct sunlight or other illumination. If you do so, you may not be able to operate the DVD player via the remote control.

Notes on the remote control

- Direct the remote control at the remote sensor of the DVD player.
- Do not drop or give the remote control a shock.
- Do not leave the remote control near an extremely hot or humid place.
- Do not spill water or put anything wet on the remote control.
- Do not open the remote control.



Connections

Read this chapter first to make all necessary preparations.

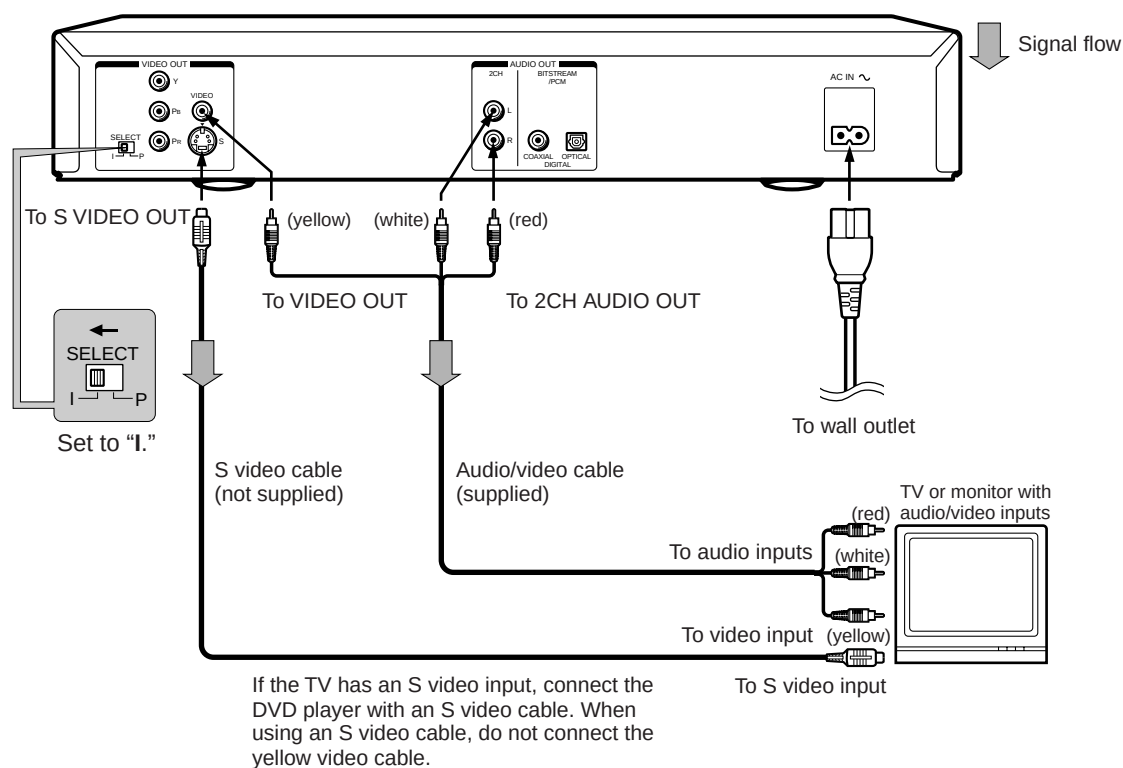
- **Connecting to a TV**
- **Connecting to an audio system and TV equipped with component video inputs**
- **Connecting to an amplifier equipped with a Dolby Digital decoder**
- **Connecting to an amplifier equipped with Dolby Pro Logic Surround**
- **Connecting to an amplifier equipped with a DTS decoder**
- **Connecting to an amplifier equipped with an MPEG2 audio decoder**
- **Connecting to an amplifier equipped with a digital audio input**

Connecting to a TV

Connect the DVD player to your TV.

For details of output sound, see [43](#).

Connecting to a TV



• Make the following setting.

On-screen display	Select:	Page
"Audio Out Select"	"Bitstream" or "PCM"	56 59

Notes

- Refer to the owner's manual of the connected TV as well.
- When you connect the DVD player to your TV, be sure to turn off the power and unplug both units from the wall outlet before making any connections.
- If your television set has one audio input, connect the left and right audio outputs of the DVD player to a Y cable adapter (not supplied) and then connect to your TV.
- Connect the DVD player directly to your TV. If you connect the DVD player to a VCR, TV/VCR combination or video selector, the playback picture may be distorted as DVD video discs are copy protected.

INTERLACED outputs/inputs (ColorStream®)

Some TVs or monitors are equipped with component video inputs. Connecting to these inputs allows you to enjoy higher quality picture playback.

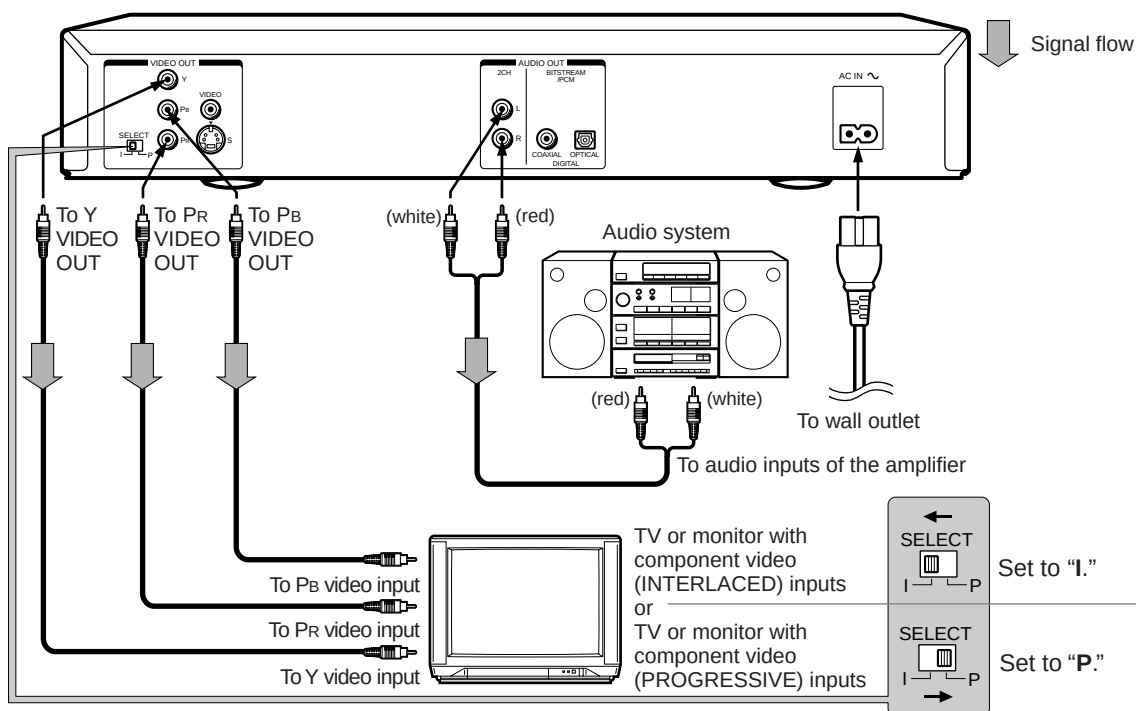
Actual labels for component video inputs may vary depending on the TV manufacturer. (ex. Y, R-Y, B-Y or Y, Cb, Cr)

In some TVs or monitors, the color levels of the playback picture may be reduced slightly or the tint may change. In such a case, adjust the TV or monitor for optimum performance.

PROGRESSIVE outputs/inputs (ColorStream®Pro)

Some TVs or monitors are equipped with component video inputs that are capable of reproducing a progressively scanned video signal. Connecting to these inputs allows you to view the highest quality pictures with less flicker.

Connecting to an audio system and TV equipped with component video inputs



■ **Switching the output signal (interlaced/progressive) using the remote control (only when the SELECT (I/P) switch is set to "P")**

You can temporarily switch the output signal for better picture quality.

Press **COLORSTREAM SELECTOR** on the remote control.

- Make the following setting.

On-screen display	Select:	Page
"Audio Out Select"	"Bitstream" or "PCM"	56
		59

Notes

- Refer to the owner's manual of the connected equipment as well.
- When you connect the DVD player to other equipment, be sure to turn off the power and unplug all of the equipment from the wall outlet before making any connections.
- If you place the DVD player near a tuner or radio, the radio broadcast sound might be distorted. In this case, place the DVD player away from the tuner and radio.
- The output sound of the DVD player has a wide dynamic range. Be sure to adjust the receiver's volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
- Turn off the amplifier before you connect or disconnect the DVD player's power cord. If you leave the amplifier power on, the speakers may be damaged.
- The S VIDEO OUT jack and the VIDEO OUT jack cannot output video signals, if you select progressive signal when the SELECT (I/P) switch is set to "P."

Connecting to Optional Equipment

You can enjoy high quality dynamic sounds by connecting the DVD player to optional audio equipment.

- For connection to your TV, see “Connecting to a TV” **18** **19**.
- For details of output sound, see **43**.
- This section uses the following reference marks.

-  : Front speaker
-  : Rear speaker
-  : Sub woofer
-  : Center speaker
-  : Signal flow

Notes

- DO NOT connect the BITSTREAM/PCM (DIGITAL) AUDIO OUT jack of the DVD player to the AC-3 RF input of a Dolby Digital Receiver. This input on your A/V Receiver is reserved for Laserdisc use only and is incompatible with the BITSTREAM/PCM (DIGITAL) AUDIO OUT jack of the DVD player.
- Connect the BITSTREAM/PCM (DIGITAL) AUDIO OUT jack of the DVD player to the “DIGITAL (OPTICAL)” or “DIGITAL (COAXIAL)” input of a Receiver or Processor.
- Refer to the owner’s manual of the connected equipment as well.
- When you connect the DVD player to other equipment, be sure to turn off the power and unplug all of the equipment from the wall outlet before making any connections.
- The output sound of the DVD player has a wide dynamic range. Be sure to adjust the receiver’s volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
- Turn off the amplifier before you connect or disconnect the DVD player’s power cord. If you leave the amplifier power on, the speakers may be damaged.

Warning

- When you are connecting (via the BITSTREAM/PCM (DIGITAL) AUDIO OUT jack) an AV decoder that does not have Dolby Digital, Digital Theater Systems (DTS) or MPEG2 decoding function, be sure to set “Audio Out Select” to “PCM” from the on-screen displays **56** **59**. Otherwise, high volume sound may damage your hearing as well as the speakers.
- When playing DTS-encoded discs (audio CDs), excessive noise may be output from the analog audio output jacks. To avoid possible damage to the audio system, you should take proper precautions when the analog audio output jacks of the DVD player are connected to an amplification system. To enjoy DTS Digital Surround™ playback, an external 5.1 channel DTS Digital Surround™ decoder system must be connected to the BITSTREAM/PCM (DIGITAL) AUDIO OUT jack of the DVD player.

Connecting to an amplifier equipped with a Dolby Digital decoder

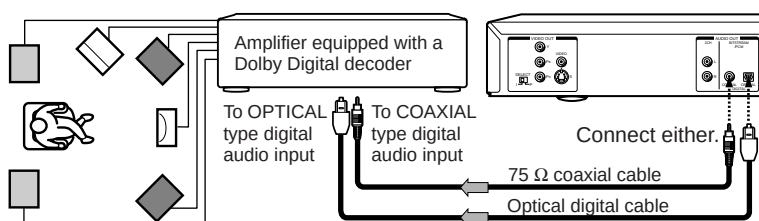
Dolby Digital

Dolby Digital is the surround sound technology used in theaters showing the latest movies, and is now available to reproduce this realistic effect in the home. You can enjoy motion picture and live concert DVD video discs with this dynamic realistic sound by connecting the DVD player to a 6 channel amplifier equipped with a Dolby Digital decoder or Dolby Digital processor. If you have a Dolby Pro Logic Surround decoder, you will obtain the full benefit of Pro Logic from the same DVD movies that provide full 5.1-channel Dolby Digital soundtracks, as well as from titles with the Dolby Surround mark.

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories. Confidential unpublished works. ©1992-1997 Dolby Laboratories. All rights reserved.

- Use DVD video discs encoded via the Dolby Digital recording system.
- Make the following setting.

On-screen display	Select:	Page
"Audio Out Select"	"Bitstream"	56
Recording system	 D	42



Connecting to an amplifier equipped with Dolby Pro Logic Surround

Dolby Pro Logic Surround

You can enjoy the dynamic realistic sound of Dolby Pro Logic Surround by connecting an amplifier and speaker system (right and left front speakers, a center speaker, and one or two rear speakers).

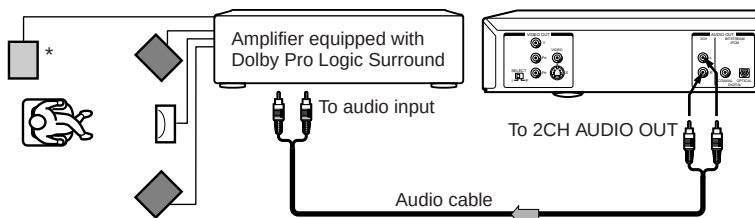
- With an amplifier equipped with Dolby Digital
Connect the equipment the same way as described in "Connecting to an amplifier equipped with a Dolby Digital decoder." Refer to that amplifier's owner's manual and set the amplifier so you can enjoy Dolby Pro Logic Surround sound.
- With an amplifier not equipped with Dolby Digital
Connect the equipment as follows.

- Make the following setting.

On-screen display	Select:	Page
"Audio Out Select"	"Bitstream" or "PCM"	56 59

Be sure to set "Audio Out Select" to "Bitstream" or "PCM" when you enjoy sounds of Dolby Pro Logic Surround using this connection.

* Connect one or two rear speakers. The output sound from the rear speakers will be monaural even if you connect two rear speakers.



Connecting to Optional Equipment (Continued)

Connecting to an amplifier equipped with a DTS decoder

Digital Theater Systems (DTS)

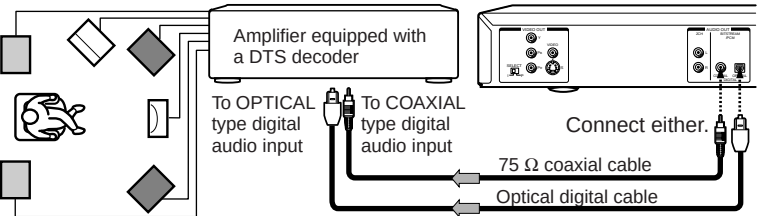
DTS is a high quality surround technology used in theaters and now available for home use, on DVD video discs or audio CDs.

If you have a DTS decoder or processor, you can obtain the full benefit of 5.1 channel DTS encoded sound tracks on DVD video discs or audio CDs.

"DTS" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc.

- Use DVD video discs or audio CDs encoded via the DTS recording system.
- Make the following setting.

On-screen display	Select:	Page
"Audio Out Select"	"Bitstream"	56
		59
Recording system	DTS	42



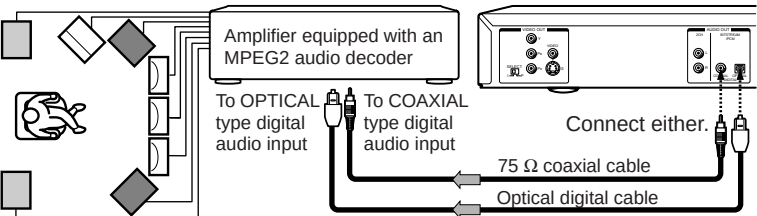
Connecting to an amplifier equipped with an MPEG2 audio decoder

MPEG2 sound

You can enjoy motion picture and live concert DVD video discs with dynamic realistic sound by connecting an amplifier equipped with an MPEG2 audio decoder or MPEG2 audio processor.

- Use DVD video discs encoded via the MPEG2 recording system.
- Make the following setting.

On-screen display	Select:	Page
"Audio Out Select"	"Bitstream"	56
		59
Recording system	MPEG	42



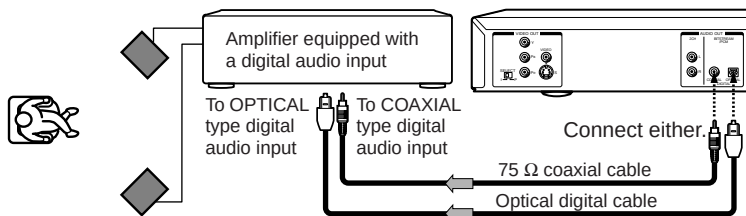
Connecting to an amplifier equipped with a digital audio input

2 channel digital stereo

You can enjoy the dynamic sound of 2 channel digital stereo by connecting an amplifier equipped with a digital audio input and speaker system (right and left front speakers).

- Make the following setting.

On-screen display	Select:	Page
"Audio Out Select"	"PCM"	56
		59





Basic playback

Begin your operation.

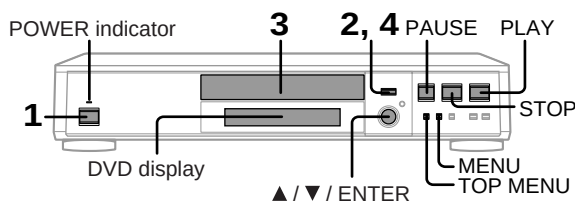
- **Playing a Disc**
- **Variable Speed Playback**
- **Locating a Desired Section**

Playing a Disc

This section shows you the basics on how to play a disc.

CAUTION

Keep your fingers well clear of the disc tray as it is closing. Neglecting to do so may cause serious personal injury.

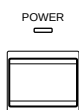


Basic playback

Preparations

- When you want to view a disc, turn on the TV and select the video input connected to the DVD player.
- When you want to enjoy the sound of discs from the audio system, turn on the audio system and select the input connected to the DVD player.

1 Press the power button (POWER).



The DVD player turns on and the POWER indicator on the player illuminates.

When the DVD player is turned on for the first time, an on-screen display will appear to provide initial settings. Press the Δ / ∇ buttons to select an item, and press the ENTER button. See the pages in $\square$, and make a selection using the Δ / ∇ buttons, then press the ENTER button.

On-Screen Language $\square$
TV Shape $\square$

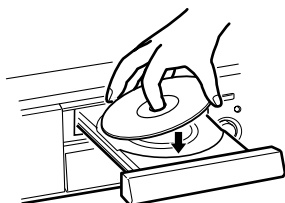
After making all the settings, select " $\square$ " and press the ENTER button.

2 Press OPEN/CLOSE.



The disc tray opens.

3 Place a disc on the disc tray.



With the playback side down.

- There are two different disc sizes. Place the disc in the correct guide on the disc tray. If the disc is out of the guide, it may damage the disc and cause the DVD player to malfunction.
- Do not place a disc which is unplayable in this DVD player.

4 Press OPEN/CLOSE to close the disc tray.



Playback starts.

If you insert a DVD video disc that contains a top menu, a menu may appear. See "Locating a title using the top menu." $\square$

You may need to press the TOP MENU or MENU button to display disc menu (depending on the actual DVD video disc.)

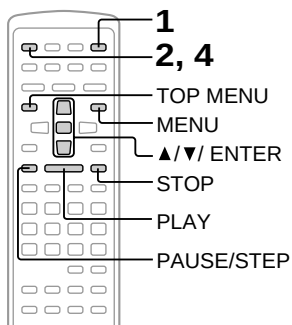
Note

If the disc tray contains a disc you have already played, playback will begin from the location where you last stopped playback. $\square$

■ To start playback in the stop mode

Press PLAY.





■ To obtain a higher quality picture

Occasionally, some picture noise not usually visible during a normal broadcast may appear on the TV screen while playing a DVD video disc because the high resolution pictures on these discs include a lot of information. While the amount of noise depends on the TV you use with this DVD player, you should generally reduce the sharpness adjustment on your TV when viewing DVD video discs.

■ About DVD-V VCD CD

The DVD-V VCD CD icons on the heading bar show the playable discs for the function described under that heading.

DVD-V : DVD video discs. VCD : VIDEO CDs.
CD : Audio CDs.

■ To pause playback (still mode)

Press **PAUSE/STEP** during playback.



To resume normal playback, press the **PLAY** button.

- Sound is muted during still mode.

■ To stop playback

Press **STOP**.

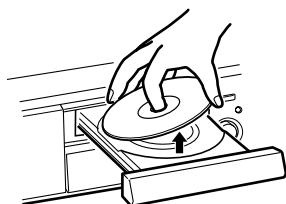


■ To remove the disc

Press **OPEN/CLOSE**.



Remove the disc after the disc tray opens completely.



Be sure to press the **OPEN/CLOSE** button to close the disc tray after you remove the disc.

■ About the screen saver

If you pause a picture of a DVD video disc and leave it still for a long while, the screen saver of the DVD player automatically appears (when "Screen Saver" is set to "On" [62]). To turn off the screen saver, press the **PLAY** button.

■ Automatic Power Off function

If the DVD player is stopped, or the screen saver is engaged for approximately 20 minutes, the DVD player will automatically turn itself off.

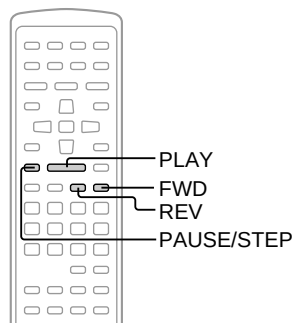
Notes

- Do not move the DVD player during playback. Doing so may damage the disc.
- Use the **OPEN/CLOSE** button to open and close the disc tray. Do not push the disc tray while it is moving. Doing so may cause the DVD player to malfunction.
- Do not push up on the disc tray or put any objects other than discs on the disc tray. Doing so may cause the DVD player to malfunction.
- In many instances, a menu screen will appear after playback of a movie is completed. Prolonged display of an on-screen menu may damage your television set, permanently etching that image onto its screen. To avoid this, be sure to press the **STOP** button on your remote control once the movie is completed.



Variable Speed Playback

You can play discs at various speeds, and resume playback from the location where you stopped playback.



Playing in fast reverse or fast forward directions

Press REV or FWD during playback.

REV



FWD



REV : Fast reverse playback

FWD: Fast forward playback

Each time you press the REV or FWD button, the playback speed changes.

■ To resume normal playback

Press **PLAY**.



Notes

- The DVD player mutes sound and omits subtitles during reverse and forward scan of DVD video discs.
- The playback speed may differ depending on the disc.



Playing frame by frame

Press PAUSE/STEP during still playback.

PAUSE/STEP



Each time you press the PAUSE/STEP button, the picture advances one frame.

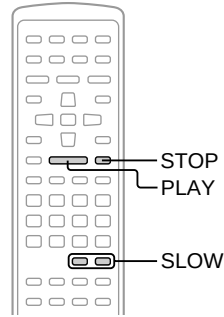
■ To resume normal playback

Press **PLAY**.



Note

The sound is muted during frame by frame playback.



DVD-V VCD CD Playing in slow-motion

Press SLOW during playback.

- SLOW** Each time you press the SLOW  button, the slow-motion speed changes.
- SLOW** If you press the SLOW  button during playback, you can view the picture in reverse slow-motion. (Only when using a DVD video disc.)
- Each time you press the SLOW  button, the slow-motion speed changes.

■ To resume normal playback

Press **PLAY**.



Notes

- The sound is muted during slow-motion playback.
- The playback speed may differ depending on the disc.

DVD-V VCD CD Resuming playback from the same location

1 Press **STOP** at the location where you want to interrupt playback.

- STOP** The DVD player memorizes the location where playback is stopped.



2 Press **PLAY**.

- PLAY** The DVD player resumes playback from the location where you stopped playback.



2 Press **PLAY**.



- DVD-V** Playback starts from the beginning of the current title.
- VCD** Playback starts from the beginning of the disc.
- CD**

- If you want to return to the beginning of a DVD video disc, open and close the disc tray once with the OPEN/CLOSE button before pressing the PLAY button.

Notes

- Resuming cannot function when:
 - you change the parental lock setting **[62]** or select a disc menu language **[60]**.
 - you play a PBC-featured VIDEO CD while “PBC” **[64]** is set to “On.”
 - you open the disc tray.
- There may be a difference in the location where playback resumes depending on the disc.
- Settings you changed using the on-screen displays while the DVD player keeps a location in the memory may function only after the memory is cleared.

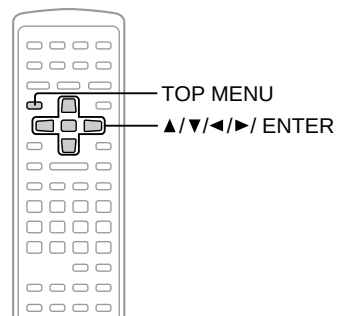
■ To start playback from the beginning regardless of the location where you stopped playback

1 Press **STOP** twice.

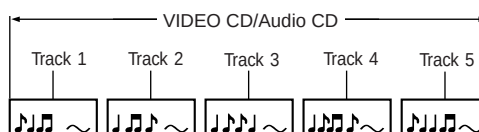
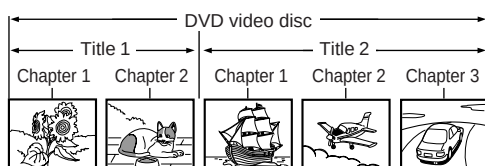
- STOP** The DVD player effaces the memory of the location.



Locating a Desired Section



Normally, DVD video discs are divided into titles, and the titles are sub-divided into chapters. VIDEO CDs and audio CDs are divided into tracks. You can quickly locate any specific title, chapter, or track.



Locating a title using the top menu

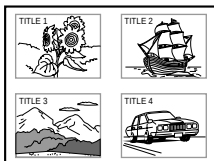
1 Press TOP MENU.

TOP MENU

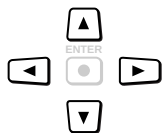


The top menu appears on the TV screen.

e.g.



2 Press ▲/▼/◀/▶ to select the title you want.



If the titles in the top menu are assigned a number, you can directly locate a specific title by pressing its designated number with the number buttons.

3 Press ENTER.

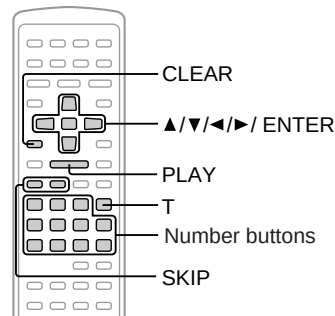
ENTER



Playback starts from chapter 1 of the selected title.

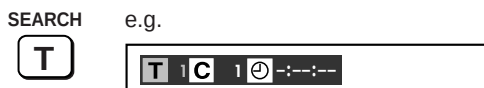
Notes

- The instructions above describe basic procedures which may vary depending on the contents of the DVD video disc. If different instructions appear on the TV screen, follow those instructions.
- If you display the top menu during playback and press the TOP MENU button again without selecting any title, the DVD player may resume playback from the point where you first pressed the TOP MENU button (depending on the actual DVD video disc.)
- This method of locating a title is available only on a disc that contains a top menu.
- Instruction notes of discs may refer to the button that displays the top menu as TITLE button.

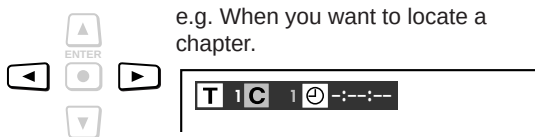


DVD-V VCD CD Locating a desired section by entering the corresponding number

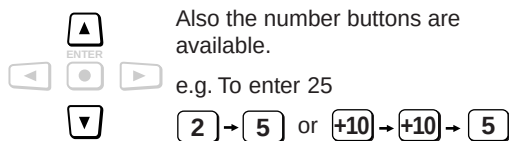
- 1 Press T.**
If you are using a VIDEO CD/audio CD, skip steps 1 and 2. Then at step 3, enter the number for the track you want using the number buttons.



- 2 Press ◀/▶ to select a section you want to locate.**



- 3 Press ▲/▼ to enter a number of the section.**



- 4 Repeat steps 2 and 3 if necessary.**

- 5 Press PLAY or ENTER.**



Playback starts from the selected section.

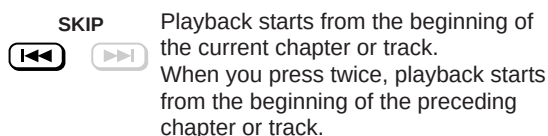
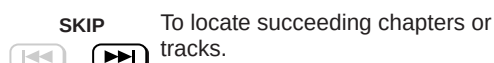
Notes

- Pressing the CLEAR button resets the numbers. To clear the display, press the T button several times.
- This method of locating a title is available only on a disc that contains title numbers.

DVD-V VCD CD Locating a specific chapter or track

Press SKIP ◀◀ or ▶▶ repeatedly to display the chapter or track number you want.

Playback starts from the selected chapter or track.



Notes

- Some titles may not display chapter numbers.
- When you set "Title Stop" to "Off" [64], you can access chapters in another title. If you go back to the preceding title by pressing the SKIP ◀◀ button, the DVD player locates the first chapter of the title. When "Title Stop" is set to "On," you can access chapters only within the current title.
- If you press and hold the SKIP ◀◀ or ▶▶ button on the front panel during playback, the DVD player performs fast reverse or fast forward playback. You can vary the speed by pressing the button further. To locate chapters or tracks during fast reverse or fast forward playback, first press the PLAY button to resume normal playback, then use the SKIP ◀◀ or ▶▶ button.



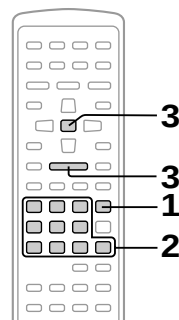
Advanced playback

Customizing the performance of your DVD player.

- **Accessing a Specific Location Directly**
- **Playing Repeatedly**
- **Playing in a Favorite Order**
- **Playing in Random Order**
- **Zooming a Picture**
- **Selecting the Sound Enhancement (E.A.M.)**
- **Selecting the Camera Angle**
- **Selecting Subtitles**
- **Selecting a Language**

Accessing a Specific Location Directly

You can access a specific location by entering its corresponding time (hours, minutes, seconds).



DVD-V
CD

Entering the time counter of the desired location

1 Press T several times.

SEARCH



You may have to press further depending on the disc. Press the button repeatedly until the clock icon is highlighted.

e.g.

T 1 C 1 ⌚ ---:--

2 Press the number buttons to enter the time.

e.g.

1 → 2 → 5 → 3 → 0

T 1 C 1 ⌚ 1:25:30

3 Press PLAY or ENTER.

PLAY



Playback starts from the desired location.

ENTER

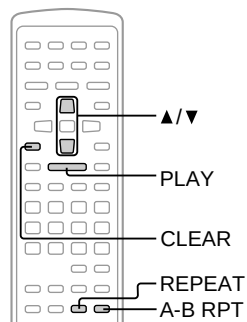
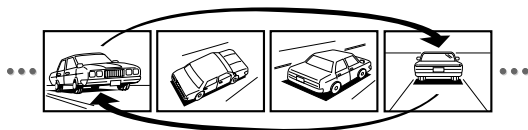


Notes

- Some discs may not respond to this process.
- Some scenes may not be located precisely as you specified.
- This method for accessing specific locations is available only within the current title of the DVD video disc or within the current track of the VIDEO CD/audio CD.

Playing Repeatedly

You can play a specific title, chapter, track, or segment repeatedly.



DVD-V VCD CD Repeating a title, chapter, or track

1 Press REPEAT.

REPEAT The mode menu appears.

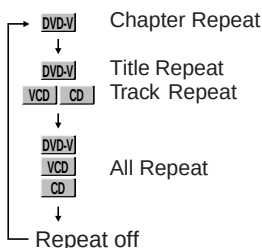


2 Press REPEAT or ▲ / ▼ repeatedly to select the repeat playback mode.

REPEAT



The mode changes as follows (when using the REPEAT button):



Chapter Repeat: Repeats the current chapter.
Track Repeat: Repeats the current track.
Title Repeat: Repeats the current title.
All Repeat: Repeats the entire disc.
Repeat Off: Resumes normal playback.

If you select the mode during playback, the DVD player automatically starts repeat playback after finishing the current title, chapter, or track.

3 Press PLAY.

PLAY



The DVD player starts repeat playback.
Press the PLAY button within about 5 seconds after you press the REPEAT button.

■ To resume normal playback

Press CLEAR.

CLEAR



Note

Some discs may not permit repeat operation.

DVD-V VCD CD Repeating a specific segment

1 Press A-B RPT at the beginning of the segment (point A) you want to play repeatedly.

A-B RPT



A-

2 Press A-B RPT again at the end of the segment (point B).

A-B RPT



The DVD player automatically returns to point A and starts repeat playback of the selected segment (A-B).

A-B Repeat

■ To resume normal playback

Press CLEAR.

CLEAR

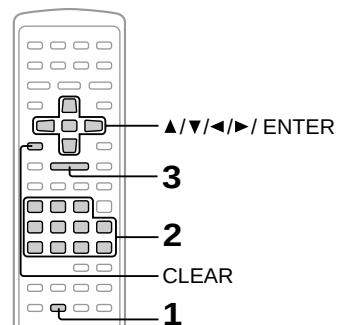


Notes

- Some discs may not permit A-B repeat operation.
- You cannot set the A-B repeat function for a segment that includes multiple camera angles [40].
- You can specify a segment only within the current title.
- There may be a slight difference between point A and the location where playback actually resumes depending on the disc.

Playing in a Favorite Order

You can combine your favorite titles, chapters, or tracks and play them in the order you determine. You can program up to 30 selections into the memory. (Memory playback)



DVD-V
CD

Setting titles, chapters, or tracks in a favorite order

1 Insert a disc and press MEMORY during stop.

MEMORY



The following display appears.

T: Title number
CT: Chapter number
or track number

Memory List			
1	T:--	CT:---	
2	T:--	CT:---	
3	T:--	CT:---	
4	T:--	CT:---	
5	T:--	CT:---	
6	T:--	CT:---	
7	T:--	CT:---	

2 Select the items in the order you want by pressing the number buttons, then ENTER for each item.

Each time you press the ◀/▶ buttons, the spaces of "T" and "CT" are highlighted in turn. Highlight where you want to enter, then press the corresponding number buttons.

To select tracks from a VIDEO CD/audio CD in order, press the **number buttons** for the track, then press the **ENTER** button for each selection you want.

Note

The space of "T (Title)" may be showing a number. Neglect this number when using a VIDEO CD/audio CD.

To select another chapter in the same title, you do not need to select the title number.

3 Press PLAY while the display appears on the TV screen.

PLAY



The DVD player starts memory playback.

■ To change the programmed selections

- 1 While the display appears on the TV screen, press the ▲/▼/◀/▶ buttons to highlight the item you want to change.
- 2 Change the selection following the instructions in step 2.

■ To cancel the programmed selections

- 1 While the display appears on the TV screen, press the ▲/▼ buttons to highlight the item you want to cancel.
- 2 Press **CLEAR**.

■ To resume normal playback from memory playback

Press **CLEAR**.

CLEAR



The memory playback indicator disappears.

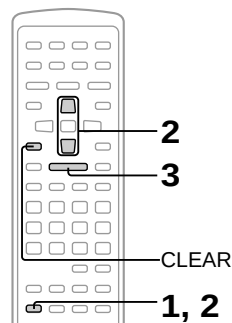
Notes

- Some discs may not permit memory playback operation.
- If you press the REPEAT button during memory playback, the DVD player repeats the current memory playback.
- If you press the MEMORY or RETURN button while the display appears on the TV screen, the display disappears.
- The programmed selections will be cleared when:
 - you turn off the DVD player.
 - you open the disc tray.



Playing in Random Order

You can play titles, chapters, or tracks in random order.
(Random playback)



DVD-V VCD CD Playing titles, chapters, or tracks in random order

1 Press RANDOM.

RANDOM The mode menu appears.



2 Press RANDOM or ▲ / ▼ repeatedly to select the random playback mode.

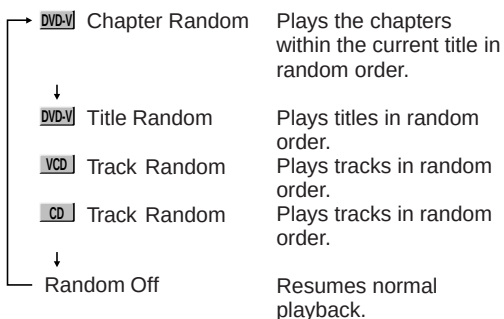
RANDOM



ENTER



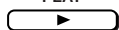
The mode changes as follows (when using the RANDOM button):



If you select the mode during playback, the DVD player automatically starts random playback after finishing the current title, chapter, or track.

3 Press PLAY.

PLAY



The DVD player starts random playback.
Press the PLAY button within about 5 seconds after you press the RANDOM button.

■ To resume normal playback

Press **CLEAR**.

CLEAR

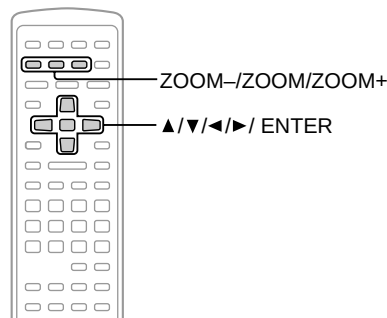
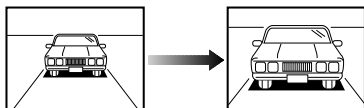


Notes

- Some discs may not permit random playback operation.
- You cannot use the random playback function in conjunction with the memory playback function.

Zooming a Picture

You can magnify areas within a picture.



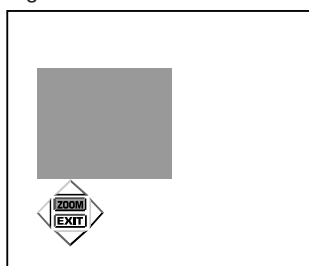
DVD-V VCD CD Zooming a picture

1 During normal, slow or still playback, press ZOOM, ZOOM+ or ZOOM-.



The DVD player enters the zoom playback mode, and a monitor scope and an icon appear.

e.g.



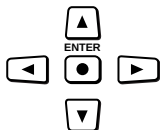
2 Select the zoom point and magnification level.

Magnification level

- To use the fixed levels:
You can select from the followings.
 - Magnification
 - Image reduction
 - Normal playback



Press the **ZOOM** button repeatedly.



Alternatively press the ▲/▼/◀/▶ buttons to select “ZOOM” on the icon, and press the **ENTER** button repeatedly.

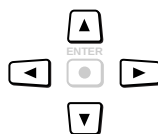
- To zoom in (or to zoom out):



Press repeatedly or press and hold the **ZOOM+** (or **ZOOM-**) button.

Zoom point

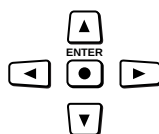
To shift:



Press the ▲/▼/◀/▶ buttons.

■ To hide the monitor scope and the icon during zoom playback

Press ▲/▼/◀/▶ to select “EXIT,” and press **ENTER**.



■ To resume normal playback

Press **ZOOM** repeatedly until the monitor scope and the icon disappear.

Alternatively press ▲/▼/◀/▶ to select “ZOOM” on the icon, and press **ENTER** repeatedly until the monitor scope and the icon disappear.

Notes

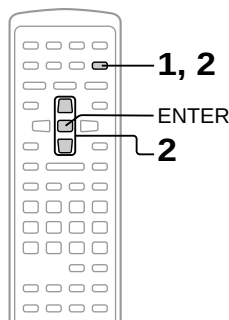
- Some discs may not respond to zoom feature.
- During some scenes, the buttons may not work as described.
- Zooming does not work on subtitles or menus included on DVD video discs.
- While the icon is displayed, the ▲/▼/◀/▶/ENTER buttons cannot work on menus included on DVD video discs. If you want to view the menus, cancel the zoom playback.
- The magnification level varies depending on the picture size you select. **58**



Selecting the Sound Enhancement (E.A.M.*)

You can easily switch a preferred audio enhancement.

*E.A.M.: Enhanced Audio Mode



DVD-V VCD CD Selecting the sound enhancement

1 Press E.A.M.



The sound enhancement menu appears.



■ To exit the audio enhancement selection

Press **ENTER**.



Alternatively leave the DVD player unattended for about 5 seconds after having made a selection.

Notes

- Actual effects to sounds may vary depending on the speaker systems. Make selection according to your preference.
- Actual effects to sounds may vary depending on the disc.
- When the DVD player is connected to an amplifier equipped with Dolby Pro Logic Surround, select "Normal". Otherwise, Dolby Pro Logic Surround may function differently than usual.
- Selecting "Dialogue" disables "Dynamic Range Control" function **[59]**.

Spatializer® 3-Dimensional Sound Processing provided by Desper Products, Inc.
Certain audio features of this product manufactured under a license from Desper Products, Inc., Spatializer® and the circle-in-square device are trademarks owned by Desper Products, Inc.

2 Press E.A.M. or ▲ / ▼ repeatedly to select the sound enhancement.



Normal:

Normal sound.



ENTER



3D (N-2-2):

To obtain expansive virtual surround sound effects from just two speakers.



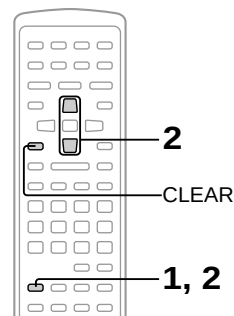
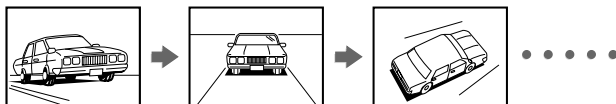
Dialogue:

To control critical center channel information to make dialogue more intelligible (only when playing a DVD video disc recorded on the Dolby Digital recording system).

- To use this enhancement on sounds output from the BITSTREAM/PCM (DIGITAL) AUDIO OUT jack, be sure to set "Audio Out Select" to "PCM". **[59]**

Selecting the Camera Angle

If the scene was recorded from multiple angles, you can easily change the camera angle of the scene you are watching.



Changing the camera angle

1 Press ANGLE while playing a scene recorded with multiple angles.

ANGLE



While playing a scene recorded with multiple angles, the angle icon (📷) flashes in the DVD display. Press the ANGLE button while the angle icon is flashing.

e.g.



■ To turn off the angle number display

Press **CLEAR**.

CLEAR



Notes

- You can change the camera angle during still playback. The camera angle changes to the new setting when you resume normal playback.
- If you pause a picture immediately after changing a camera angle, the resumed playback picture may not display the new camera angle.

2 Press ANGLE or ▲ / ▼ while the angle number is displayed on the TV screen.

ANGLE



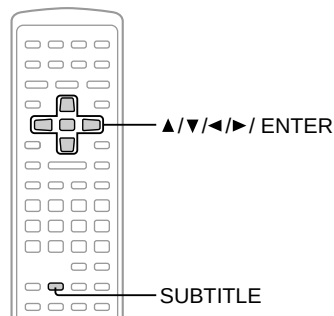
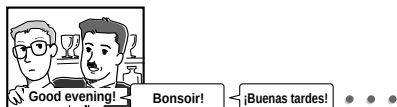
Each time you press the ANGLE button or the ▲ / ▼ buttons, the camera angle changes.



You can change the camera angle directly by pressing the number buttons corresponding to its angle number instead of using the ▲ / ▼ buttons.

Selecting Subtitles

You can display subtitles on the TV screen and select a subtitle language from those included on the DVD video disc.



Selecting a subtitle language

1 Press SUBTITLE during playback.

SUBTITLE



The current subtitle setting is displayed.

e.g.



The abbreviation of the language appears instead of the language name. Refer to the list of languages and their abbreviations. **[65]**

2 Press SUBTITLE or ▲ / ▼ while the subtitle setting is displayed on the TV screen.

SUBTITLE



ENTER



Each time you press the SUBTITLE button or the ▲ / ▼ buttons, the subtitle languages included on the DVD video disc change.

To turn off the subtitle setting display, press the ENTER button.

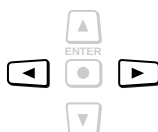
■ To turn subtitles on or off

- 1 Press **SUBTITLE** during playback.

SUBTITLE



- 2 Press ◀ / ▶ while the subtitle setting is displayed on the TV screen, to select "On" or "Off."



Notes

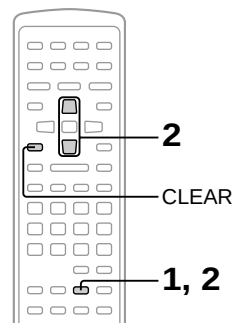
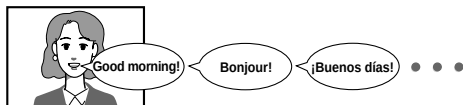
- Some DVD video discs are set to display subtitles automatically, and you cannot turn them off even if you set the subtitle function to off.
- During some scenes, the subtitles may not appear immediately after you select "On."
- Some DVD video discs will allow you to make subtitle selections and turn subtitles on or off only via the disc menu.

Notes

- When you turn on the DVD player or replace a disc, the player returns to the initial default setting **[61]**. When you select a subtitle language which is not included on the disc, the DVD player plays a prior language programmed on the disc.
- During some scenes, the subtitles may not appear immediately after you change the subtitle language.

Selecting a Language

You can select a preferred language and sound recording system from those included on the disc.



DVD-V
VCD
CD

Selecting a playback audio setting

1 Press AUDIO during playback.

AUDIO



The current audio setting is displayed.

e.g.

ENG1 PCM 2CH
ENG2 DDD 2CH

The abbreviation of the language appears instead of the language name. Refer to the list of languages and their abbreviations. **[65]**

2 Press AUDIO or ▲ / ▼ while the audio setting is displayed on the TV screen.

AUDIO



Each time you press the AUDIO button or the ▲ / ▼ buttons, the audio settings included on the disc change.



If you press the ◀ / ▶ buttons, you can select output sound format. **[59]**

To turn off the audio setting display, press the CLEAR button.

■ Selecting sound channels of VIDEO CDs

You can switch left and right channels by pressing the **AUDIO** button repeatedly during playback.

AUDIO



Notes

- When you turn on the DVD player or replace a disc, player returns to the initial default setting **[61]**. If you select a sound track which is not included on the disc, the DVD player plays a prior sound track programmed on the disc.
- Some discs allow you to change audio selections only via the disc menu. If this is the case, press the MENU button and choose the appropriate language from the selections on the disc menu.

■ Output sound conversion table (sampling frequency/quantization bit)

Discs	Sound recording system	Audio selection from the menu 56 / 59 and output jacks on the rear panel			
		"Bitstream"		"PCM"	
		BITSTREAM/PCM jack	2CH AUDIO OUT jacks	BITSTREAM/PCM jack	2CH AUDIO OUT jacks
DVD video discs	Dolby Digital		Bitstream	48 kHz/20 bit	48 kHz/20 bit
	Linear PCM	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit	48 kHz/16 bit
		48 kHz/20 bit	48 kHz/20 bit	48 kHz/20 bit	48 kHz/20 bit
		48 kHz/24 bit	48 kHz/24 bit	48 kHz/24 bit	48 kHz/24 bit
		96 kHz/16 bit	96 kHz/16 bit	96 kHz/16 bit	96 kHz/16 bit
		96 kHz/20 bit	96 kHz/20 bit	96 kHz/20 bit	96 kHz/20 bit
		96 kHz/24 bit	96 kHz/24 bit	96 kHz/24 bit	96 kHz/24 bit
	DTS		Bitstream	—	—
VIDEO CDs	MPEG1, MPEG2		Bitstream	48 kHz/16 bit	48 kHz/16 bit
	MPEG1		44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit
Audio CDs	Linear PCM 44.1 kHz/16 bit		44.1 kHz/16 bit	44.1 kHz/16 bit	44.1 kHz/16 bit
	DTS		Bitstream	(Noise)	(Noise)

 : 3D (N-2-2) sound enhancement can function.
(Signals are depressed by down sampling process.)

- Signals of 96kHz from the BITSTREAM/PCM jack are depressed to 48 kHz by down sampling process when:
 - "3D (N-2-2)" is selected. **39**
 - "PCM Down Sampling" is set to "On." **59**
 - a copyright protected disc is played.
- Quantization bit of signals of 20 bit or higher is 16 bit if they are in a copyright protected disc.

Quick control

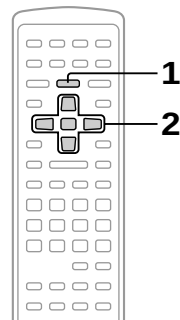
Simple use of a single button and the cursor control enables you to direct your playback, without manipulating many actual buttons.

- **Using the Graphic Remote Control - V-REMOTE -**
- **Selecting the Playback Function - QUICK -**
- **Accessing Features - NAVI -**

Using the Graphic Remote Control

- V-REMOTE -

Pressing one button can display a graphics based on-screen remote control that allows you to control playback as if you were doing it from the actual remote control.



DVD-V VCD CD Using the graphic remote control

1 During playback, press V-REMOTE.

V-REMOTE

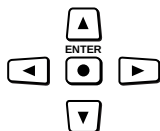


The graphic remote control (Virtual Remote) appears. For the meaning of each icon, see right.

e.g. DVD-V



2 Press ▲/▼/◀/▶ to select the icon, and press ENTER.



■ To turn off the Virtual Remote

Press V-REMOTE.

V-REMOTE



Note

Some discs may not permit this operation.

■ Icons and features

See the pages in for details on the features.

Icon	Function	Page
T*	Current title/track number	—
C*	Current chapter number	—
⌚*	Elapsed time of the current title/track	—
⌂**	Audio setting	42
⋮**	Subtitle setting	41
🎬**	Angle setting	40
◀◀	Reverse slow motion playback	29
⏸	Pause / Frame by frame playback	28
▶▶	To begin slow motion playback	29
⏮	Playback starts from the beginning of the current chapter or track.	31
▶	Normal playback	26
⏭	To locate succeeding chapters or tracks.	31
⏮	Fast reverse playback	28
■	To stop playback.	27
⏭	Fast forward playback	28
⏻	To turn off the Virtual Remote.	

* You can access a desired location. After step 2, perform the steps below:

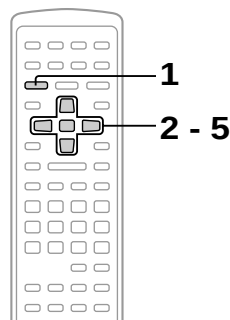
T / C : steps 3 to 5 on 31

⌚ : steps 2 and 3 on 34

** After step 2, a sub menu will appear. Perform step 2 on the page in .

Selecting the Playback Function - QUICK -

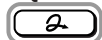
Pressing one button can display a list of playback functions which are relevant to your current playback mode. You can check and modify them from the list.



DVD-V VCD CD Selecting the playback function

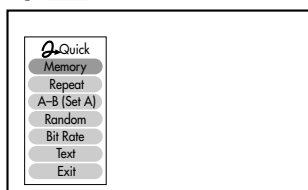
1 During playback, press QUICK.

QUICK



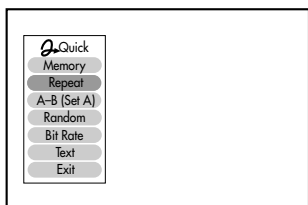
The following on-screen display appears.
(The actual display will vary depending on the playback status.)

e.g. DVD-V



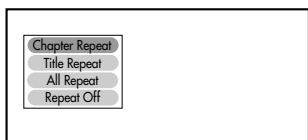
2 Press ▲ / ▼ to select a desired item.

e.g. To change the repeat mode:



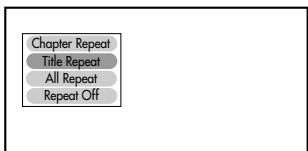
3 Press ENTER.

e.g. The mode menu appears.



4 Press ▲ / ▼ to change the setting.

e.g. To select the title repeat mode:



5 Press ENTER.

ENTER



The on-screen display disappears and playback will resume according to your selection.

■ Quick menu

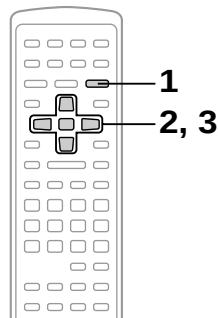
- Memory : To program memory playback. [36]
- Repeat : To select the repeat playback mode.
For the mode selections, see page [35].
- A-B (Set A) : At the beginning of a segment you want to repeat, press the ENTER button. Then at the end of the segment, press the ENTER button again. The segment is played repeatedly. [35]
- Random : To select the random playback mode.
For the mode selections, see page [37].
- Bit Rate : To activate the bitrate display.
(Bit rate: data transfer rate (Mbit/s)
Amount of picture, sound and subtitle data in the DVD video disc transferred per second.
The larger the value, the more data processed, but this does not necessarily insure better picture quality.)
- Text : To activate the Text display.
Text display:
Displays DVD-Text data or CD-Text data if included on the disc.
(Some content on the disc may not be displayed properly depending on the disc.)
- Exit : To quit the on-screen display.

Note

Pressing the QUICK button again also exits the on-screen display.

Accessing Features - NAVI -

The NAVI menu provides an icon based display from which you can easily access key playback function or setting.



DVD-V VCD
CD

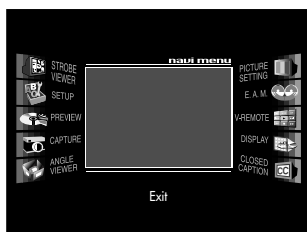
NAVI menu items

1 Press NAVI.

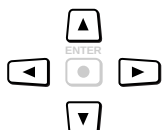


The NAVI menu appears.

e.g. DVD-V



2 Press ▲/▼/◀/▶ to select a desired feature icon.



For details on each feature, refer to the list on the next page.

3 Press ENTER.



Selection details appears.

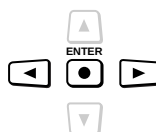
4 Refer to the list on the next page and follow the instructions detailed on subsequent pages.

■ To exit the NAVI menu

Press NAVI.



Alternatively press ◀/▶ to remove the highlight from an icon to the center position, and press ENTER.



Note

Depending on the disc, some features cannot be accessed.

Navi menu selections

	Strobe Viewer	You can divide a desired scene into stop action frames for careful analysis.	50
	Setup	You can change the default settings to customize performance to your preference.	56
	Preview	You can display thumbnail views of the first scenes of titles or chapters and select a preferred one.	50
	Capture	You can sample a scene from a playback picture and transform it into a background picture.	51
	Angle Viewer	You can display all camera angles simultaneously and select your preferred one from them.	51
	Picture Setting	You can fine adjust picture quality and store up to 3 custom picture settings in the memory of the DVD player.	52
	E.A.M.	You can easily switch a preferred audio enhancement.	39
	V-Remote	You can control key playback functions using the graphics based on-screen remote control.	46
	Display	You can view information about a disc and its operational status on the TV screen.	53
	Closed Caption	You can display closed caption included on a DVD disc without connecting a closed caption decoder to your TV.	53

Accessing Features - NAVI - (continued)

NAVI menu items

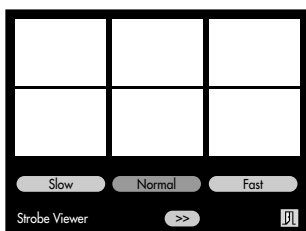
Strobe Viewer



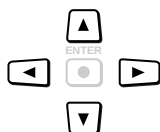
You can divide a desired scene into stop action frames for careful analysis.

After selecting this icon and pressing ENTER, the following on-screen display appears:

e.g.



- 1 Press ▲/▼/◀/▶ to select.



Slow: Still pictures at shorter intervals.
 Normal: Still pictures at normal intervals.
 Fast: Still pictures at longer intervals.
 >>: To view the next series of 6 pictures.
 [Icon]: To quit the on-screen display.

- 2 Press ENTER.



Note

Some discs or scenes may not permit this operation.

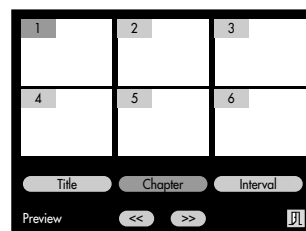
Preview



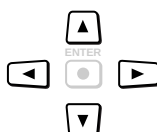
You can display thumbnail views of the first scenes of titles or chapters and select a preferred one.

After selecting this icon and pressing ENTER, the following on-screen display appears:

e.g.



- 1 Press ▲/▼/◀/▶ to select.



1 - 6: To locate the scene.
 Title: To display the first scenes of titles (1 to 6).
 Chapter: To display the first scenes of chapters (1 to 6).
 Interval: To display scenes at intervals of about 10 minutes apart.
 << : To go to the previous page.
 >> : To go to the next page.
 [Icon]: To quit the on-screen display.

- 2 Press ENTER.



Notes

- Some discs or scenes may not permit this operation.
- Some items may not be selected depending on the disc or scene.
- Some of the first scenes may not be picked up depending on the disc.

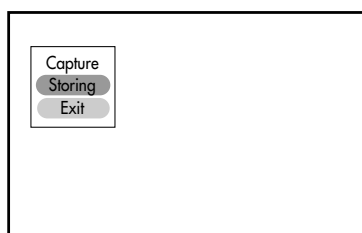
Capture



You can sample a scene from a playback picture and transform it into a background picture.

After selecting this icon and pressing ENTER, the following on-screen display appears:

e.g.



- 1 Pause playback at a scene you want to capture.
- 2 Press ▲ / ▼ to select.



Storing: To sample and store the current picture in the player memory.

Exit: To quit the on-screen display.

- 3 Press ENTER.



The stored picture will be displayed as a background picture when the player is in the stop mode. It is necessary to confirm this process via the setup menu **[62]**.

Notes

- You can store only one picture. Storing a new picture will erase the old one.
- No operations are permitted in process of sampling and storage of background picture.

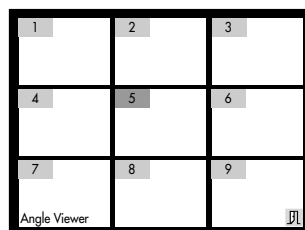
Angle Viewer



You can display all camera angles simultaneously and select your preferred one from them.

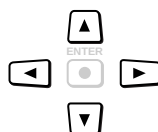
After selecting this icon and pressing ENTER, the following on-screen display appears:

e.g.



When the scene contains 9 camera angles:

- 1 Press ▲ / ▼ / ◀ / ▶ to select.



1-9 : To select the camera angle.

⏏ : To quit the on-screen display.

- 2 Press ENTER.



Note

Some discs or scenes may not permit this operation.

Accessing Features - NAVI - (continued)

NAVI menu items

Picture Setting



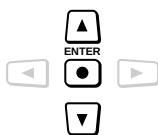
You can fine adjust picture quality and store up to 3 custom picture settings in the memory of the DVD player.

After selecting this icon and pressing ENTER, the following on-screen display appears:

e.g.



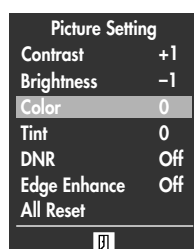
- 1 Press **▲** / **▼** to select, and press **ENTER**.



(Standard) : Normal setting.
1, 2, 3: Select the desired custom memory number. (Follow steps 2 to 4 below.)

- 2 Press **▲** / **▼** to select the element.

e.g. When you select "Color":



- 3 Press **ENTER**.

The sub menu appears.

- 4 Press **◀** / **▶** to adjust the value, and press **ENTER**.

e.g.



Contrast : -7 (Lower) to +7 (Higher)
Brightness : -7 (Darker) to +7 (Brighter)
Color: -7 (Duller) to +7 (Brighter)
Tint : -7 (Redder) to +7 (Greener)
DNR*¹ : On / Off
Edge Enhance*² : On / Off
All Reset : To restore all the elements to the normal setting. A message will appear. Follow the procedure displayed on-screen.

*¹: DNR: Digital Noise Reduction.
To view a picture with less video noise.

Notes

- Actual picture enhancement may vary depending on the quality of the disc.
- While the DNR feature can provide additional improvement in the reduction of noise in the video signal, it may produce undesirable picture artifacts on some discs.
- Depending on the disc, some kinds of picture details may be lost by the picture enhancement.

*²: To enhance picture edges.

Note

The Tint adjustment is not available when connecting to a TV via the component video jacks (Y, P_B, P_R).

Display



You can view information about a disc and its operational status on the TV screen.

After selecting this icon and pressing ENTER, the following on-screen display appears:

e.g.

Title : 1
Chapter : 23
Time : 1:23:45
Audio : ENG 1 D 2CH
Subtitle : ENG 1 On
Angle : 1/3
E.A.M. : Normal
Audio Out Select : Bitstream
Zoom : Off
Chapter repeat

To quit the on-screen display, press **ENTER**.

Note

Some discs or scenes may not permit this operation.

Closed Caption



You can display closed caption included on a DVD disc without connecting a closed caption decoder to your TV.

After selecting this icon and pressing ENTER, the following on-screen display appears:

e.g.



- 1 Press **▲ / ▼** to select.



On : To display closed caption.

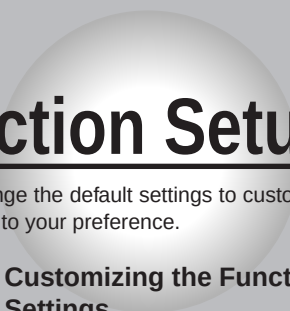
Off: To disable closed caption.

- 2 Press **ENTER**.



Notes

- While you are using on-screen displays (including the above one), you cannot view closed caption.
- When "On" is selected, some displays such as "►" may be disabled.



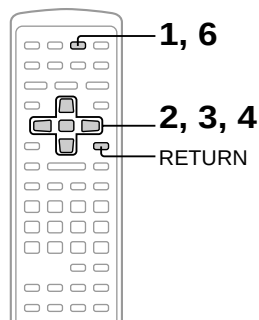
Function Setup

You can change the default settings to customize performance to your preference.

- **Customizing the Function Settings**
- **Table of Languages**

Customizing the Function Settings

You can change the default settings to customize performance to your preference.



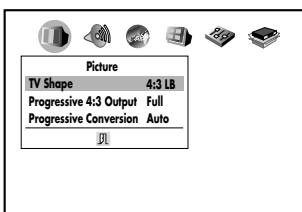
DVD-V VCD CD Setting procedure

1 Press SETUP during stop.

SETUP

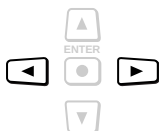


The following on-screen display appears.



2 Press ◀/▶ to select a symbol for the setting you want to change.

(See the next page.)



Picture performance settings



Output sound settings



Language settings



Display settings

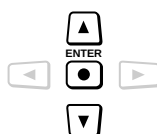


Operational settings

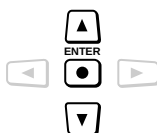


Initializing

3 Press ▲/▼ to select the setting you want to change, then press ENTER.



4 Change the selection by ▲/▼ or other buttons, by referring to the corresponding pages 58, then press ENTER.



5 Repeat steps 3 and 4 to change other settings.

To select another operation, go back to step 2.

6 Press SETUP.

SETUP



The on-screen display disappears.

■ To return to the previous display

Press RETURN.

RETURN



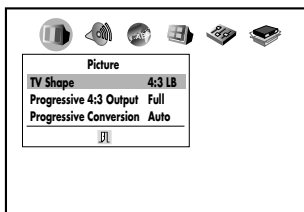
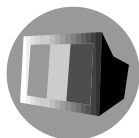
Notes

- The on-screen display disappears also when you select "⏏" and press the ENTER button.
- The SETUP button can function even during normal playback, however some operations may be inaccessible, and a message will appear. In this case, try again after playback is stopped.

Setting		Details	Page
	TV Shape	 To select a picture size according to the aspect ratio of your TV.	58
	Progressive 4:3 Output	  To select the video output of pictures recorded in 4:3 format. (Only when connected to a PROGRESSIVE TV.)	58
	Progressive Conversion	 To select the system of output signal. (Only when connected to a PROGRESSIVE TV.)	58
	PCM Down Sampling	 To select a sound processing option according to performance of the connected equipment. (Only when the BITSTREAM/PCM (DIGITAL) AUDIO OUT jack is connected.)	59
	Audio Out Select	   To select an output sound format corresponding to your system connection.	59
	Dynamic Range Control	 To turn on or off a function that makes faint sounds easier to hear even if you lower the volume during late hours playback.	59
	Karaoke Vocal	 To turn on or off the vocal output during DVD KARAOKE disc playback.	60
	On-Screen Language	   To select a preferred language for on-screen displays.	60
	Disc Menu Language	 To select a preferred language for disc menus.	60
	Audio Language	 To select a preferred language for the sound track.	61
	Subtitle Language	 To select a preferred language for subtitles.	61
	On-Screen Displays	   To turn on or de-activate the operational status display on the TV screen.	62
	Background	   To select the background color or background picture.	62
	Screen Saver	 To turn the screen saver on or off.	62
	Pause/Still	 To select the resolution of still pictures. (Field/Frame)	62
	Parental Lock	 To turn the parental lock function on or off.	62
	Remote Confirmation	   To turn on or off the confirmation beeper announcing when each remote command received.	64
	Title Stop	 To turn on or off a feature that automatically stops playback after a title has been viewed.	64
	PBC	 To use the menu screen when playing a PBC-controllable VIDEO CD.	64
	Initialize	   To restore all settings to the factory set.	64

Customizing the Function Settings (continued)

Setting details



TV Shape DVD-V

4:3 Letterbox: Select when a standard 4:3 TV is connected.
Displays theatrical images with masking bars above and below the picture.



4:3 Normal: Select when a standard 4:3 TV is connected.
Displays pictures cropped to fill your TV screen. Either or both sides of the picture are cut off.



16:9 Widescreen: Select when a 16:9 wide TV is connected.

Notes

- The displayable picture size is preset on the DVD video disc. Therefore, the playback picture of some DVD video discs may not conform to the picture size you select.
- When you play DVD video discs recorded in the 4:3 picture size only, the playback picture always appears in the 4:3 picture size regardless of the TV shape setting.
- If you select "16:9 Widescreen" and you own a 4:3 TV set, the DVD playback picture will be horizontally distorted during playback. Images will appear to be horizontally compressed. Always be sure that your TV shape conforms to the actual TV in use.

Progressive 4:3 Output DVD-V VCD

Select the video output of pictures recorded in 4:3 format. (Only when connected to a PROGRESSIVE TV.)

Full: Displays pictures expanded horizontally to fill the 16:9 screen.

4:3: Displays images in 4:3 aspect ratio with masking bars to the left and right of the picture.

Progressive Conversion DVD-V

There are two types of source content in pictures recorded in DVD video discs: film content (pictures recorded from films at 24 frames per second) and video content (video signals recorded at 30 frames per second). Make this selection according to the type of content being viewed.

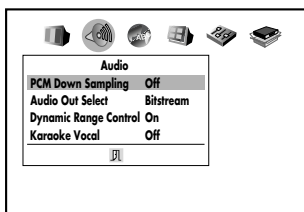
Auto: Select this position normally.
The DVD player automatically detects source content, film or video, of playback source, and converts that signal in the progressive output format in an appropriate method.

Video: The DVD player filters video signal, and converts it in the progressive output format appropriately.
Suitable for playback of video content pictures.

Film: The DVD player converts film content pictures in the progressive output format appropriately.
Suitable for playback of film content pictures.
The progressive output feature will be most effective under this selection.

Note

Depending on the disc, pictures may be cut off or doubled. In this case, select "Video."



PCM Down Sampling **DVD-V**

Make this selection only when you use your audio equipment (e.g. receiver) connecting to the DVD player via the BITSTREAM/PCM (DIGITAL) AUDIO OUT jack.

According to performance of your connected receiver, select a sound processing option for playback of a disc that contains high frequency signals (sampling frequency 96 kHz).

- Off:** Select when your connected receiver conforms to high frequency signals of 96 kHz. The DVD player outputs these signals in a disc as they are.
- On:** Select when your connected receiver does not conform to high frequency signals of 96 kHz. The DVD player outputs these signals in a disc depressing the frequencies to 48 kHz.

Notes

- Regardless of this setting, the DVD player outputs high frequency signals in a copyright protected disc, depressing to 48 kHz.
- If you select "Off" while your connected receiver does not conform to high frequency signals of 96 kHz, you cannot hear output sound of those signals.

Audio Out Select **DVD-V** **VCD** **CD**

Select the output sound format corresponding to your system connection.

For details of sound recording systems, see **43**.

Bitstream: Select when connected to an amplifier equipped with a Dolby Digital, DTS, MPEG1 or MPEG2 decoder. **21** **22**
The DVD player outputs digital audio information in the bitstream format when you play a DVD video disc recorded on the Dolby Digital, DTS, MPEG1 or MPEG2 recording system.

PCM: Select when connected to a 2 channel digital stereo amplifier. **23**
The DVD player outputs sounds in the PCM 2ch format when you play a DVD video disc recorded on the Dolby Digital, MPEG1 or MPEG2 recording system.

Note

When you make a connection to a TV, or Dolby Pro Logic or stereo system via the analog audio jacks, select "Bitstream" or "PCM."

Dynamic Range Control **DVD-V**

- Off:** Full dynamic range is maintained.
- On:** Dynamic range is reduced.

Notes

- This function works only during playback of Dolby Digital recorded discs.
- The level of Dynamic Range Reduction may differ depending on the DVD disc.

Customizing the Function Settings (continued)

Setting details

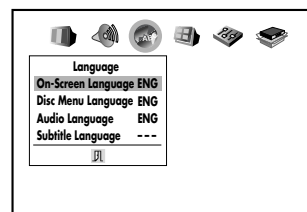
Karaoke Vocal DVD-V

Off: The primary vocal is not output.

On: The primary vocal is output when it is recorded on the disc.

Notes

- The vocal output feature is used during playback of Dolby Digital (multi-channel) recorded DVD KARAOKE discs. This feature allows you to turn off vocal audio tracks, or restore them for background accompaniment.
- When playing KARAOKE, connect appropriate audio equipment such as an amplifier to the DVD player.



On-Screen Language DVD-V VCD CD

English: To view on-screen displays in English.

Français: To view on-screen displays in French.

Español: To view on-screen displays in Spanish.

Disc Menu Language DVD-V

English: To display disc menus in English.

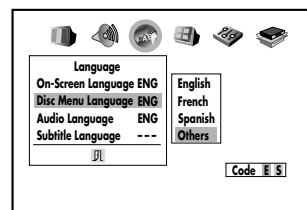
French: To display disc menus in French.

Spanish: To display disc menus in Spanish.

Others: To make a further choice.

After pressing the ENTER button, follow steps 1) - 4) below.

- 1) Obtain the abbreviation of the preferred language from the list **65**.
- 2) Select the first character by pressing the **▲ / ▼** buttons.
- 3) Press the **◀ / ▶** buttons to shift and select the second character by pressing the **▲ / ▼** buttons.



- 4) Press the ENTER button.

Note

Some DVD video discs may not include your pre-selected language. In this case, the DVD player automatically displays disc menus consistent with the disc's initial language setting.

Audio Language DVD-V

English: To play sound tracks in English.

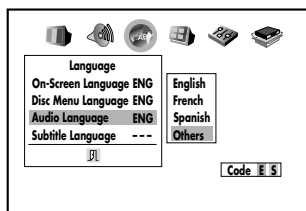
French: To play sound tracks in French.

Spanish: To play sound tracks in Spanish.

Others: To make a further choice.

After pressing the ENTER button, follow steps 1) - 4) below.

- 1) Obtain the abbreviation of the preferred language from the list **65**.
- 2) Select the first character by pressing the ▲ / ▼ buttons.
- 3) Press the ◀ / ▶ buttons to shift and select the second character by pressing the ▲ / ▼ buttons.



- 4) Press the ENTER button.

Note

Some DVD video discs may be played in a different language than you selected. A prior language may be programmed on the disc.

Subtitle Language DVD-V

English: To display subtitles in English.

French: To display subtitles in French.

Spanish: To display subtitles in Spanish.

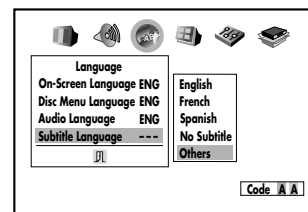
No Subtitle: To disable subtitles.

Others: To make a further choice.

After pressing the ENTER button, follow steps 1) - 4) below.

- 1) Obtain the abbreviation of the preferred language from the list **65**.
- 2) Select the first character by pressing the ▲ / ▼ buttons.

- 3) Press the ◀ / ▶ buttons to shift and select the second character by pressing the ▲ / ▼ buttons.



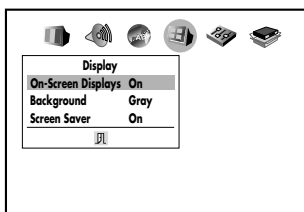
- 4) Press the ENTER button.

Notes

- Some DVD video discs may be set to display subtitles in a different language than you selected. A prior subtitle language may be programmed on the disc.
- Some DVD video discs allow you to change subtitle selections only via the disc menu. If this is the case, press the MENU button and choose the appropriate subtitle language from the selection on the disc menu.

Customizing the Function Settings (continued)

Setting details



On-Screen Displays DVD-V VCD CD

Off: Operational modes (e.g. "□□", "▶▶") are not displayed.

On: Operational modes (e.g. "□□", "▶▶") are displayed on-screen.

Background DVD-V VCD CD

Blue: Blue background.

Gray: Gray background.

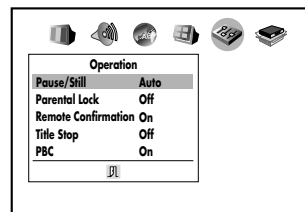
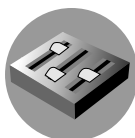
Capture: To use a picture you sampled and stored in the memory using the Capture feature 51 as a background.

Jacket: To use the jacket picture included on some discs as a background. If it is not included, a gray background will be substituted.

Screen Saver DVD-V

Off: The screen saver is disengaged.

On: The screen saver operates.



Pause/Still DVD-V

Auto: For normal use. Still and fast motion images can be paused.

Frame: The resolution of still pictures is improved, so that you can make a motionless picture more clearer when you pause it.

Parental Lock DVD-V

DVD video discs equipped with the parental lock function are rated according to their content. The contents allowed by a parental lock level and the way a DVD video disc can be controlled may vary from disc to disc. For example, if the disc allowed you could edit out violent scenes unsuitable for children and replace them with more suitable scenes, or lock out playback of the disc altogether.

- DVD video discs may or may not respond to the parental lock settings. This is not a defect in the DVD player. Make sure this function works with your DVD video discs.

Off: The parental lock feature does not function. After pressing the ENTER button, follow step 1) below.

On: To activate the parental lock feature or change the settings. After pressing the ENTER button, follow steps 1) - 3) below.

Parental Lock
Security Code □□□□

- 1) Press the number buttons to create a personal 4-digit security code, then press the ENTER button.

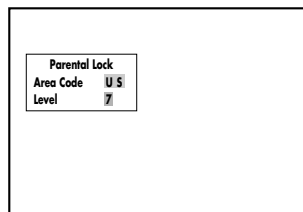
If you make a mistake before pressing the ENTER button, press the CLEAR button and enter your 4-digit security code again.

- 2) Enter the code of a country/area whose standards were used to rate the DVD video disc, referring to the list below.

Country/Area	Code
AUSTRALIA	AU
BELGIUM	BE
CANADA	CA
CHINA	CN
CHINA HONG KONG	HK
DENMARK	DK
FINLAND	FI
FRANCE	FR
GERMANY	DE
INDONESIA	ID
ITALY	IT
JAPAN	JP
MALAYSIA	MY
NETHERLANDS	NL
NORWAY	NO
PHILIPPINES	PH
RUSSIAN FEDERATION	RU
SINGAPORE	SG
SPAIN	ES
SWEDEN	SE
SWITZERLAND	CH
TAIWAN	TW
THAILAND	TH
UNITED KINGDOM	GB
UNITED STATES	US

- a) Select the first character by pressing the ▲ / ▼ buttons.
- b) Press the ◀ / ▶ buttons to shift and select the second character by pressing the ▲ / ▼ buttons.
- c) Press the ENTER button.

- 3) Press the ▲ / ▼ buttons to select the parental lock level, then press the ENTER button.



You cannot play DVD video discs rated higher than the level you selected unless you cancel the parental lock function.

For example, when you select level 7, discs rated higher than level 7 are locked out and cannot be played.

The parental lock level is equivalent to the following USA movie ratings.

Level 7: NC-17

Level 6: R

Level 4: PG 13

Level 3: PG

Level 1: G

The parental lock levels for other countries/areas than U.S. are included for future use. Check the appropriate parental lock level when you buy a DVD video disc equipped with the parental lock feature in the future.

■ To change the parental lock level

Follow steps 1) - 3).

■ To change your 4-digit security code

- 1) After selecting "On" or "Off," press the STOP button four times, then press the ENTER button.



The 4-digit security code is cleared.

- 2) Press the number buttons to create a new 4-digit security code.
- 3) Press the ENTER button.

Note

After making the "Parental Lock" setting, the on-screen display will disappear. To make other settings, press the SETUP button again to display them.

Customizing the Function Settings (continued)

Setting details

Remote Confirmation DVD-V VCD CD

Off: The beeper does not sound.

On: The beeper sounds with each remote operation.

Title Stop DVD-V

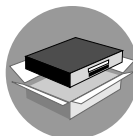
Off: The DVD player continues after playback of a title is completed.

On: The DVD player stops after playback of a title is completed.

PBC VCD

Off: When playing a VIDEO CD without using the menu.

On: To use the menu when playing a PBC-featured VIDEO CD.



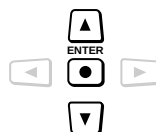
Initialize
All settings will be restored to pre-set levels.

Exit
Yes

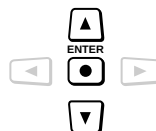
Initialize DVD-V VCD CD

To restore all settings to the factory set.

- 1) Press the **▲** / **▼** buttons to select "Yes," and press the **ENTER** button.



- 2) Read the message, and if you really want to restore all settings, press the **▲** / **▼** buttons to select "Yes," and press the **ENTER** button.



The message of completion appears.

Note

The "Parental Lock" setting is not restored to the factory set.

Table of languages and their abbreviations

Abbreviation	Language	Abbreviation	Language	Abbreviation	Language
---	No alternate language	GN	Guarani	PT	Portuguese
CHI (ZH)	Chinese	GU	Gujarati	QU	Quechua
DUT (NL)	Dutch	HA	Hausa	RM	Rhaeto-Romance
ENG (EN)	English	HI	Hindi	RN	Kirundi
FRE (FR)	French	HR	Croatian	RO	Rumanian
GER (DE)	German	HU	Hungarian	RU	Russian
ITA (IT)	Italian	HY	Armenian	RW	Kinyarwanda
JPN (JA)	Japanese	IA	Interlingua	SA	Sanskrit
KOR (KO)	Korean	IE	Interlingue	SD	Sindhi
MAY (MS)	Malay	IK	Inupiak	SG	Sango
SPA (ES)	Spanish	IN	Indonesian	SH	Serbo-Croatian
AA	Afar	IS	Icelandic	SI	Singhalese
AB	Abkhazian	IW	Hebrew	SK	Slovak
AF	Afrikaans	JI	Yiddish	SL	Slovenian
AM	Amharic	JW	Javanese	SM	Samoan
AR	Arabic	KA	Georgian	SN	Shona
AS	Assamese	KK	Kazakh	SO	Somali
AY	Aymara	KL	Greenlandic	SQ	Albanian
AZ	Azerbaijani	KM	Cambodian	SR	Serbian
BA	Bashkir	KN	Kannada	SS	Siswati
BE	Belorussian	KS	Kashmiri	ST	Sesotho
BG	Bulgarian	KU	Kurdish	SU	Sundanese
BH	Bihari	KY	Kirghiz	SV	Swedish
BI	Bislama	LA	Latin	SW	Swahili
BN	Bengali, Bangla	LN	Lingala	TA	Tamil
BO	Tibetan	LO	Laotian	TE	Telugu
BR	Breton	LT	Lithuanian	TG	Tajik
CA	Catalan	LV	Latvian, Lettish	TH	Thai
CO	Corsican	MG	Malagasy	TI	Tigrinya
CS	Czech	MI	Maori	TK	Turkmen
CY	Welsh	MK	Macedonian	TL	Tagalog
DA	Danish	ML	Malayalam	TN	Setswana
DZ	Bhutani	MN	Mongolian	TO	Tongan
EL	Greek	MO	Moldavian	TR	Turkish
EO	Esperanto	MR	Marathi	TS	Tsonga
ET	Estonian	MT	Maltese	TT	Tatar
EU	Basque	MY	Burmese	TW	Twì
FA	Persian	NA	Nauru	UK	Ukrainian
FI	Finnish	NE	Nepali	UR	Urdu
FJ	Fiji	NO	Norwegian	UZ	Uzbek
FO	Faroese	OC	Occitan	VI	Vietnamese
FY	Frisian	OM	(Afan) Oromo	VO	Volapük
GA	Irish	OR	Oriya	WO	Wolof
GD	Scottish Gaelic	PA	Panjabi	XH	Xhosa
GL	Galician	PL	Polish	YO	Yoruba
		PS	Pashto, Pushto	ZU	Zulu

Others

- Before Calling Service Personnel
- Specifications
- LIMITED WARRANTY DVD PLAYER

Before Calling Service Personnel

Check the following guide for the possible cause of a problem before contacting service.

Symptoms and correction

Symptom	Cause	Correction	Page
No power.	The power plug is disconnected.	Connect the power plug securely into the wall outlet.	18
The DVD player turned off by itself.	The automatic power off function turned the unit off.	Press the PLAY button.	27
No picture.	The TV is not set to receive DVD signal output.	Select the appropriate video input mode on the TV so the picture from the DVD player appears on the TV screen.	26
	The video cable is not connected securely.	Connect the video cable securely into the appropriate jacks.	18, 19
No sound.	The equipment connected with the audio cable is not set to receive DVD signal output.	Select the correct input mode of the audio receiver so you can listen to the sound from the DVD player.	26
	The audio cable is not connected securely.	Connect the audio cable securely into the appropriate jacks.	18-23
	The audio receiver or TV is turned off.	Turn on the equipment connected with the audio cable.	26
	The setting of output sound format is incorrect.	Select the proper audio setting.	42, 56 59
The playback picture has occasional distortion.	The disc is dirty.	Eject the disc and clean it.	9
	It is in fast forward or fast reverse playback.	Sometimes a small amount of picture distortion may appear. This is not a malfunction.	—
Brightness is unstable or noises are present in the playback pictures.	The effect of copy protection.	Connect the DVD player directly to the TV. Avoid connecting the DVD player to a VCR or TV/VCR combination.	18
The DVD player does not start playback.	No disc is inserted.	Insert a disc.	26
	An unplayable disc is inserted.	Insert a playable disc. (Check the disc type.)	10
	The disc is placed upside down.	Place the disc with the playback side down.	26
	The disc is not placed within the guide.	Place the disc correctly inside the guide on the disc tray.	26
	The disc is dirty.	Clean the disc.	9
	The parental lock function is set.	Cancel the parental lock function or change the parental lock level.	56, 62
Playback does not follow the course of the disc's program.	It is in the mode of repeat playback, memory playback, etc.	These operations may prevent a proper progress of the contents.	—
Buttons do not work.	Power supply fluctuations or other abnormalities such as static electricity may interrupt correct operations.	Turn the power on or off with the POWER button. Or disconnect the power plug and insert it into the wall outlet again.	—
The remote control does not work properly.	The remote control is not pointed at the remote sensor of the DVD player.	Point the remote control at the remote sensor of the DVD player.	15
	The remote control is too far from the DVD player.	Operate the remote control within about 7 m.	15
	The batteries in the remote control are exhausted.	Replace the batteries with new ones.	15

DVD player / outputs / supplied accessories

DVD player

Power supply	120 V AC, 60 Hz
Power consumption	17 W
Mass	3.0 kg
External dimensions	430 × 81 × 311 mm (W/H/D)
Signal system	Standard NTSC
Laser	Semiconductor laser, wavelength 650 nm / 780 nm
Frequency range	DVD linear sound : 48 kHz sampling 4 Hz to 22 kHz 96 kHz sampling 4 Hz to 44 kHz
Signal-to-noise ratio	More than 112 dB
Audio dynamic range	More than 108 dB
Harmonic distortion	Less than 0.002 %
Wow and flutter	Below measurable level (less than ±0.001 % (W.PEAK))
Operating conditions	Temperature: 5 °C to 35 °C, Operation status: Horizontal

Outputs

Video output	1.0 V (p-p), 75 Ω, negative sync., pin jack × 1
S video output	(Y) 1.0 V (p-p), 75 Ω, negative sync., Mini DIN 4-pin × 1 (C) 0.286 V (p-p), 75 Ω
Component video output	(Y) 1.0 V (p-p), 75 Ω, negative sync., pin jack × 1 (P _B)/(P _R) 0.7 V (p-p), 75 Ω, pin jack × 2
Audio output (BITSTREAM/PCM OPTICAL)	Optical connector × 1
Audio output (BITSTREAM/PCM COAXIAL)	0.5 V (p-p), 75 Ω, pin jack × 1
Audio output (2CH AUDIO)	2.0 V (rms), 220 Ω, pin jacks (L, R) × 1

Supplied Accessories

Audio/video cable	1
Remote control (SE-R0058)	1
Batteries (AA)	2
Power cord	1

- Designs and specifications are subject to change without notice.

LIMITED WARRANTY DVD PLAYER

Toshiba America Consumer Products, Inc. ("TACP"), Toshiba Hawaii ("THI") and Toshiba Canada Limited ("TCL") make the following limited warranties. These limited warranties extend to original purchaser or any person receiving this set as a gift from the original purchaser and to no other purchaser or transferee.

Limited Ninety (90) Day Warranty

TACP/THI warrant this product against defects in materials or workmanship for a period of ninety (90) days after the date of original retail purchase. During this period, TACP/THI will repair or replace a defective product or part, at their option, with a new or refurbished product or part without charge to you. You must deliver the entire product to a TACP/THI Authorized Service Station. You are responsible for all transportation and insurance charges for the unit to and from the Authorized Service Station. If you live in the U.S.A. you may, at your option, return your DVD Unit to:

Toshiba America Consumer Products Inc.

Returns Center

1420C Toshiba Dr.

Lebanon, TN 37087

Upon receipt we will, at our option, exchange the DVD Unit with a new or refurbished unit. **Canadian consumers are requested to contact TCL. In Hawaii consumers are requested to contact THI.**

Limited One (1) Year Warranty

TACP/THI further warrant the parts in this product against defects in materials or workmanship for a period of one (1) year after the date of original retail purchase. During this period, TACP/THI will repair or replace a defective product or part, at their option, with a new or refurbished product or part without charge to you, except that if a defective part is replaced after ninety (90) days from the date of the original retail purchase you pay labor charges involved in the replacement. You must also deliver the entire product to a TACP/THI Authorized Service Station. You are responsible for all transportation and insurance charges for the unit to and from the Authorized Service Station. If you live in the U.S.A. you may, at your option, return your DVD Unit to:

Toshiba America Consumer Products Inc.

Returns Center

1420C Toshiba Dr.

Lebanon, TN 37087

Upon receipt we will, at our option, exchange the DVD Unit with a new or refurbished unit. **Canadian Consumers are requested to contact TCL. In Hawaii consumers are requested to contact THI.**

Rental Units

The warranty for rental units begin with the first rental or thirty (30) days from the date of shipment to the rental firm, whichever comes first.

Commercial Units

Products sold and used for commercial use have a limited ninety (90) day warranty for all parts and labor.

Owner's Manual

You should read the owner's manual thoroughly before operating this product. You should complete and mail the enclosed Demographic card within ten (10) days after you, or the person who has given you this product as a gift, purchased this product. This is one way to enable TACP to provide you with better customer service and improved products. Failure to return the card will not affect your rights under this warranty.

Your Responsibility

The above warranties are subject to the following conditions:

- (1) You must retain your bill of sale or provide other proof of purchase.
- (2) You must notify a TACP/THI/TCL /Authorized Service Station within thirty (30) days after you discover a defective product or part.
- (3) All warranty servicing of this product must be made by a TACP/THI/TCL Authorized Service Station.
- (4) U.S.A. warranties are effective only if the product is purchased and operated in the Continental U.S.A. or Puerto Rico.
- (5) Labor service charges for set installation. Set up, adjustment of customer controls and installation or repair of antenna systems are not covered by this warranty. Reception problems caused by inadequate antenna systems are your responsibility.
- (6) Warranties extend only to defects in materials or workmanship as limited above and do not extend to any product or parts which have been lost or discarded by you or to damage to products or parts caused by misuse, accident, damage caused by Acts of God, such as lighting or fluctuations in electric power, improper installation, improper maintenance or use in violation of instructions furnished by us; or to units which have been altered or modified without authorization of TACP/THI/TCL or to damage to products or part thereof which have had the serial number removed, altered, defaced or rendered illegible.
- (7) Should you elect to return your DVD Unit to TACP after the ninety (90) days and within one (1) year, or after the warranty period has expired: Call (800)-631-3811 to receive information concerning an exchange price. Payment must be enclosed with product in the form of a certified check or money order including reason for return.
- (8) Physically damaged DVD Units are not acceptable for repair or exchange whether in or out of warranty and will be returned as received.

How to Obtain Warranty Service

- (1) Refer to the troubleshooting guide in your owner's manual. This check list may solve your problem.
- (2) In the U.S.A., only call the TACP toll free number 800-631-3811, or if in Hawaii or Canada see listing below within (30) days after you find a defective product or part.
- (3) Arrange for the delivery of the product to the TACP/THI/TCL Authorized Service Station or TACP Return Center. Products shipped to the Service Station must be insured and safely and securely packed, preferably in the original shipping carton, and a letter explaining the defect and also a copy of the bill of sale or other proof of purchase must be enclosed.

In the Continental United States contact:



In Hawaii contact:

Toshiba Hawaii Inc.
327 Kamakee Street
Honolulu, HA 96814
(808)-521-5377

In Canada contact:

Consumer Electronics Group
191 McNabb Street
Markham, Ontario L3R 8H2
(905)-470-5400

Consumer Electronics Group
22171 Fraserwood Way
Richmond, B.C. V6W 1J5
(604)-303-2500

Consumer Electronics Group
1643 North Service Road
Droval, QC H9P 1J1
(514)-856-4100

All warranties implied by state law, including the implied warranties of merchantability and fitness for a particular purpose, are expressly limited to the duration of the limited warranties set forth above. With the exception of any warranties implied by state law as hereby limited, the foregoing warranty is exclusive and in lieu of all other warranties, guarantees, agreements and similar obligations of manufacturer or seller with respect to the repair or replacement of any parts. In no event shall TACP/THI be liable for consequential or incidental damages.

No person, agent, distributor, dealer or company is authorized to change, modify or extend the terms of these warranties in any manner whatsoever. The time within which an action must be commenced to enforce any obligation of TACP/THI arising under the warranty or under any statute, or law of the United States or any state thereof, is hereby limited to ninety (90) days from the date you discover or should have discovered, the defect. This limitation does not apply to implied warranties arising under state law.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state. Some states do not allow limitation on how long an implied warranty lasts, when an action may be brought, or the exclusion or limitation of incidental or consequential damages, so the above provisions may not apply to you.

ATTENTION CANADIAN CONSUMERS:

Canadian consumers are requested to complete the special Canadian "Warranty Registration Form" enclosed, and forward this completed form with a copy of bill of sale to TOSHIBA OF CANADA to "Register and Validate" their warranty. Product must be purchased from an Authorized Canadian Dealer. Products purchased in the U.S.A. and used in Canada are not covered by these warranties.

IMPORTANT: PACKING AND SHIPPING INSTRUCTION

When you send the product to a Service Station, you must use the original carton box and packing material, then insert the original carton box containing the unit into another carton using more packing material.

2. LOCATION OF MAIN PARTS AND MECHANISM PARTS

2-1. Location of Main Parts

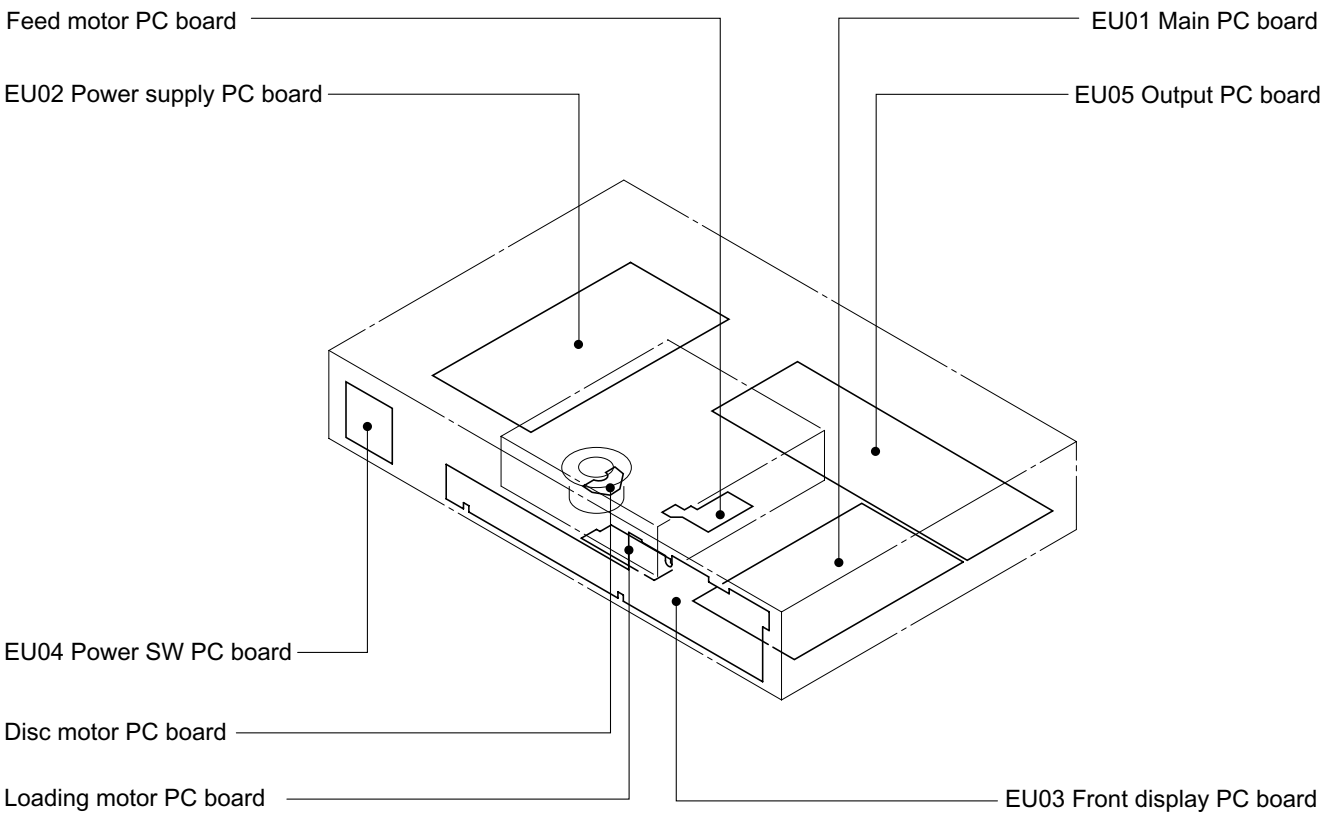


Fig. 1-2-1

2-2. Location of Mechanism Parts

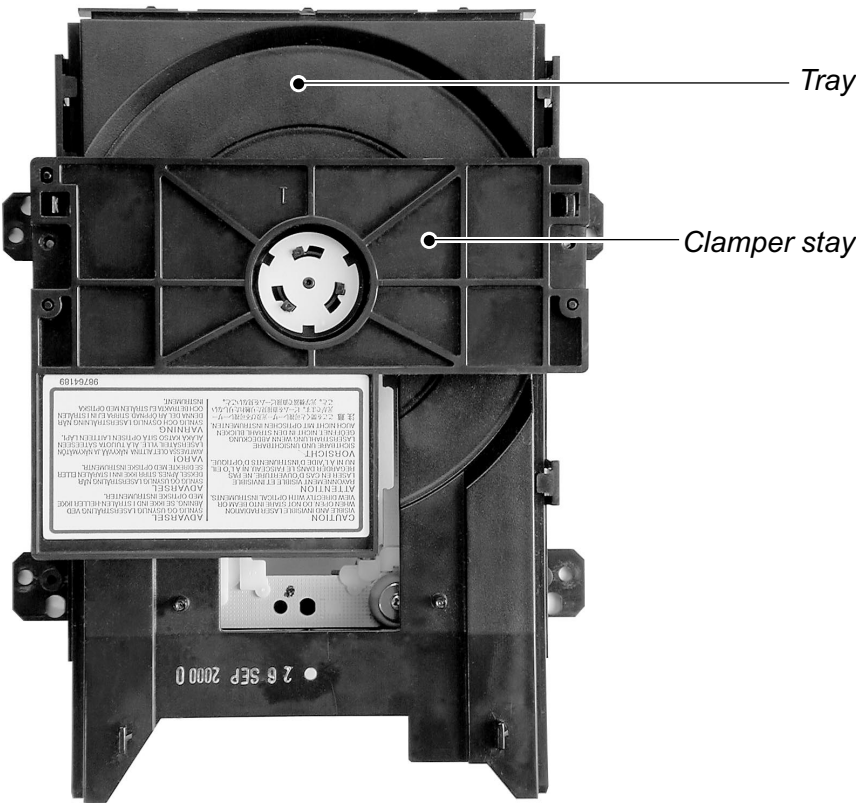


Fig. 1-2-2 Mechanism chassis assembly (Top side)

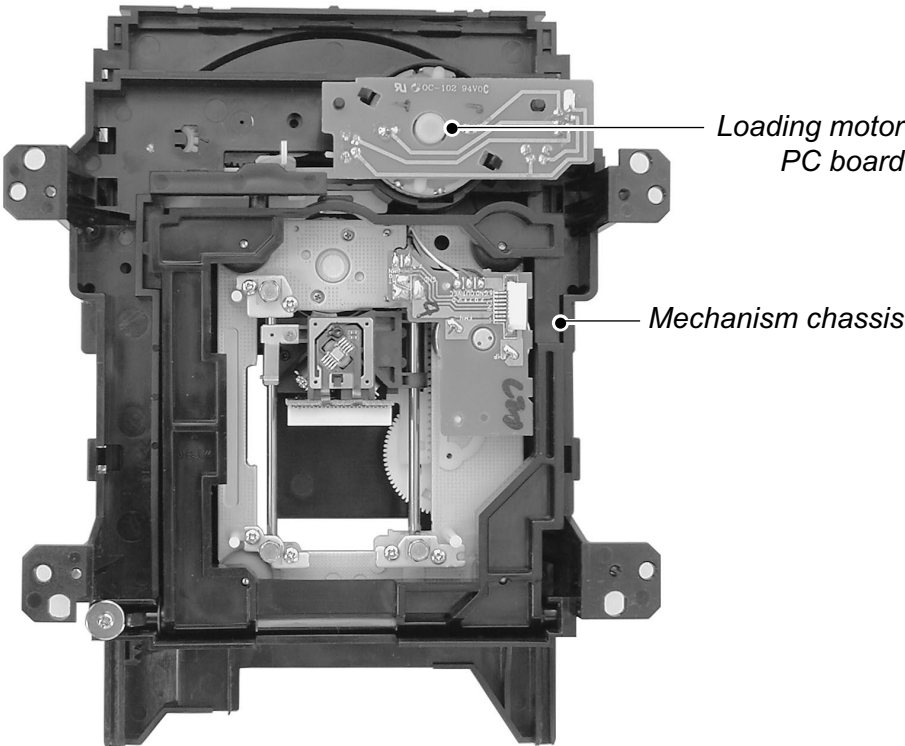


Fig. 1-2-3 Mechanism chassis assembly (Bottom side)

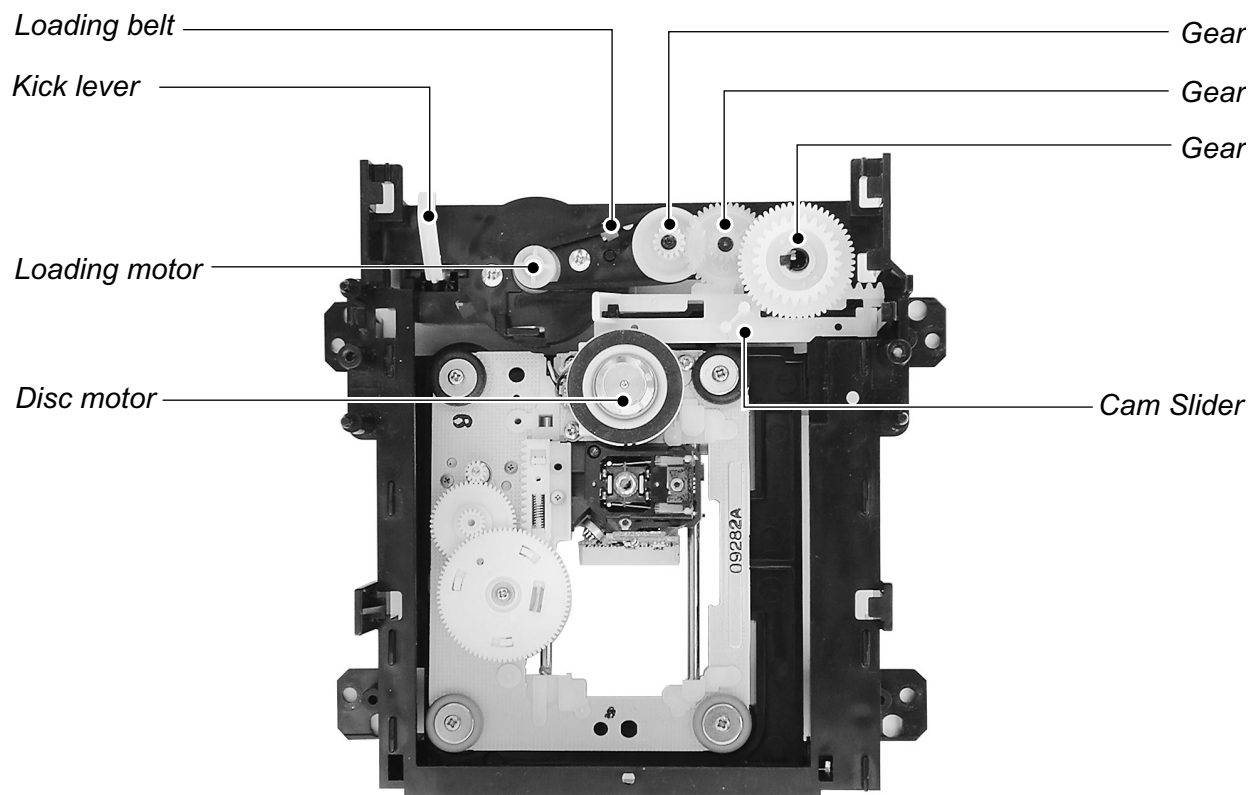


Fig. 1-2-4 Mechanism chassis assembly (Internal side)

<Type A>

Note:

When servicing, note that this model has two types of the pickup mechanism assembly.

Only Type A is a service part. Type B can be changed to Type A pickup free from any performance problem.

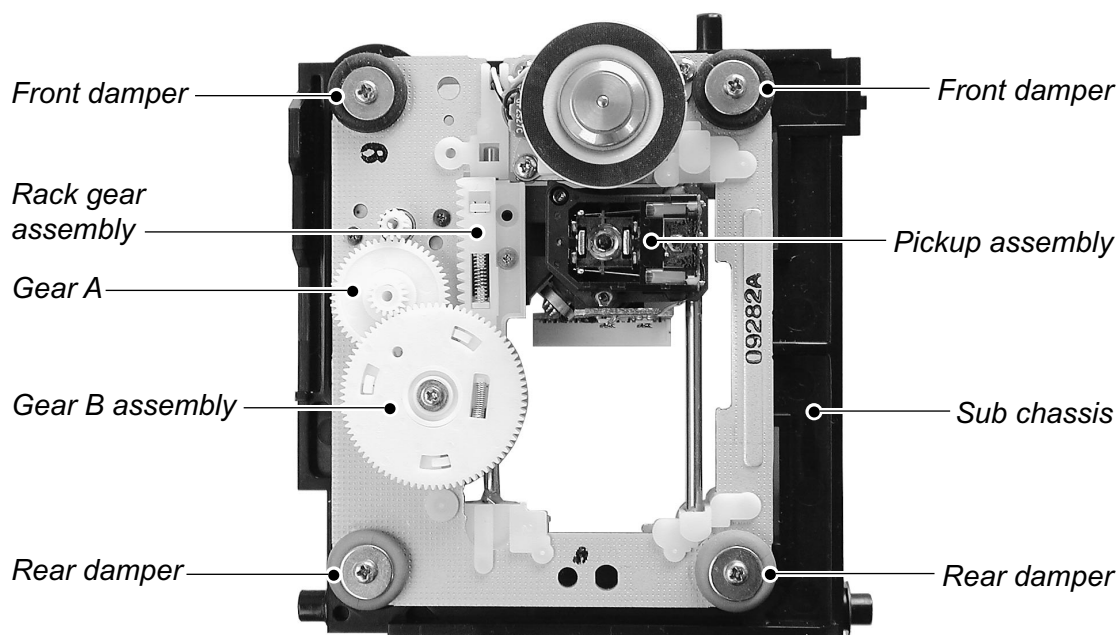


Fig. 1-2-5 Pickup mechanism chassis assembly (Top side)

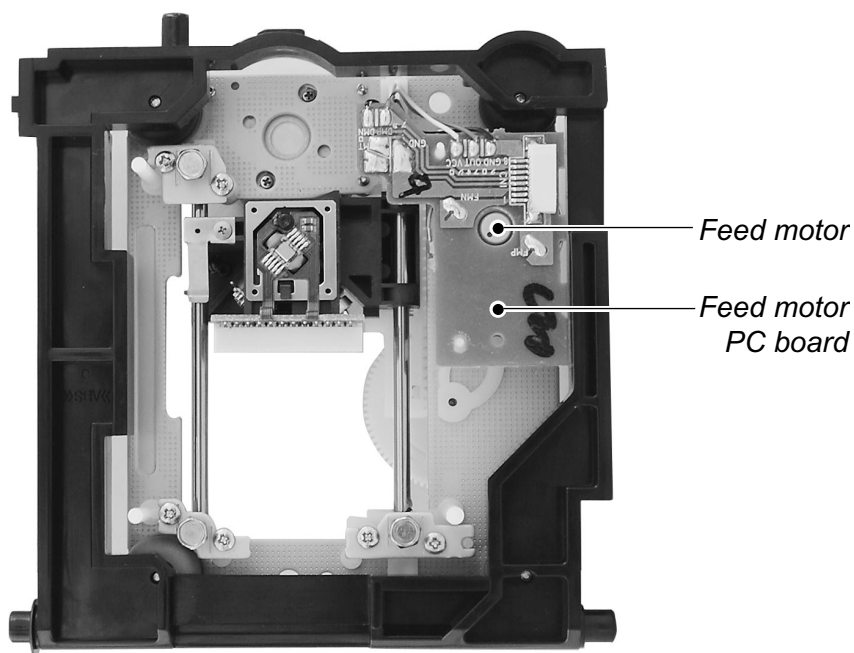


Fig. 1-2-6 Pickup mechanism chassis assembly (Bottom side)

<Type B>

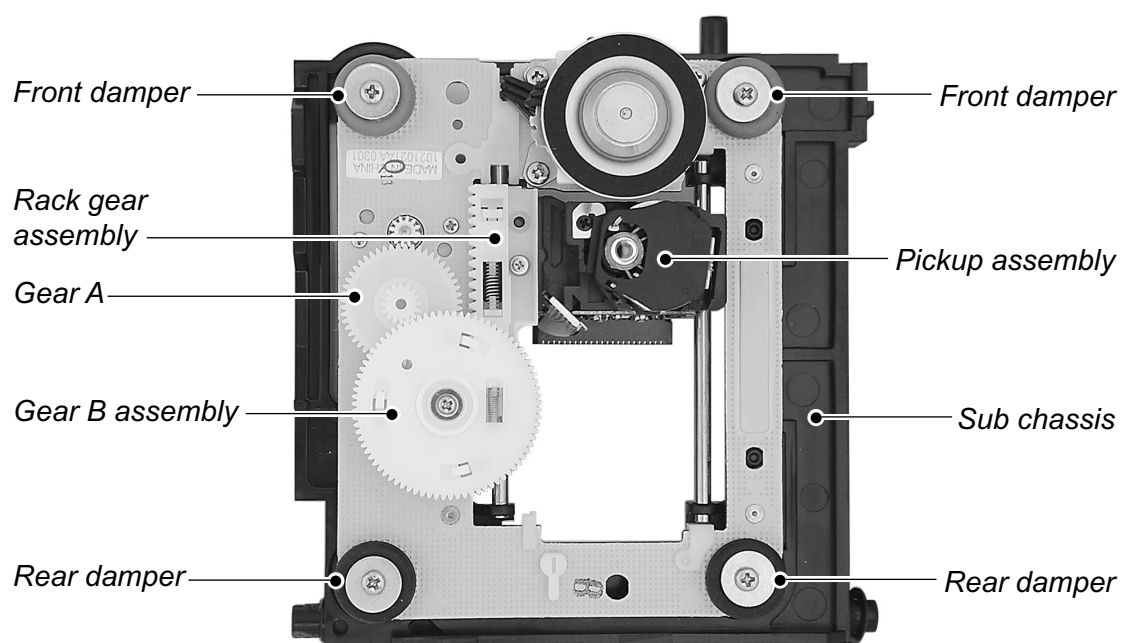


Fig. 1-2-7 Pickup mechanism chassis assembly (Top side)

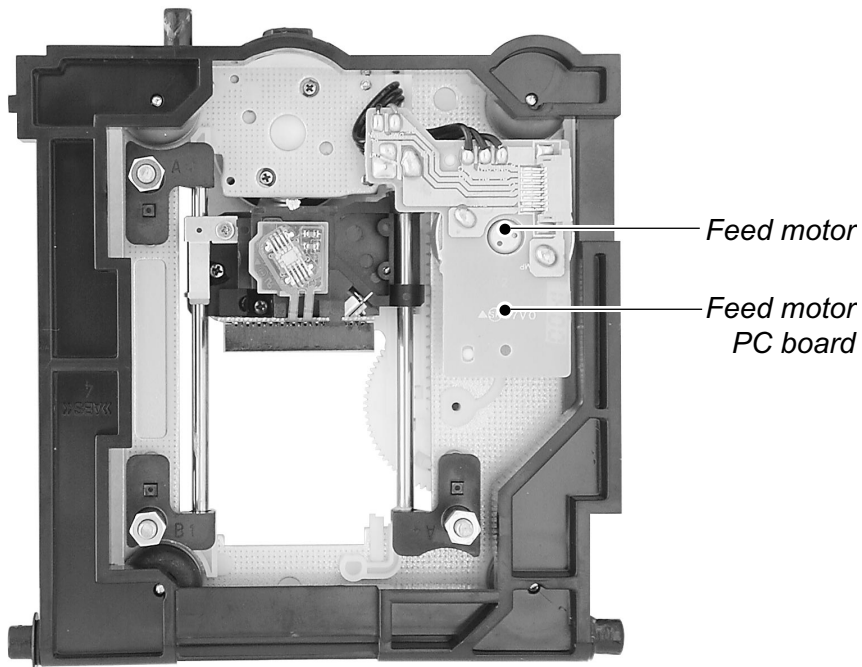


Fig. 1-2-8 Pickup mechanism chassis assembly (Bottom side)

3. TROUBLESHOOTING

3-1. Main Circuit

3-1-1. Servo System

(1) Initial Operation after Power ON

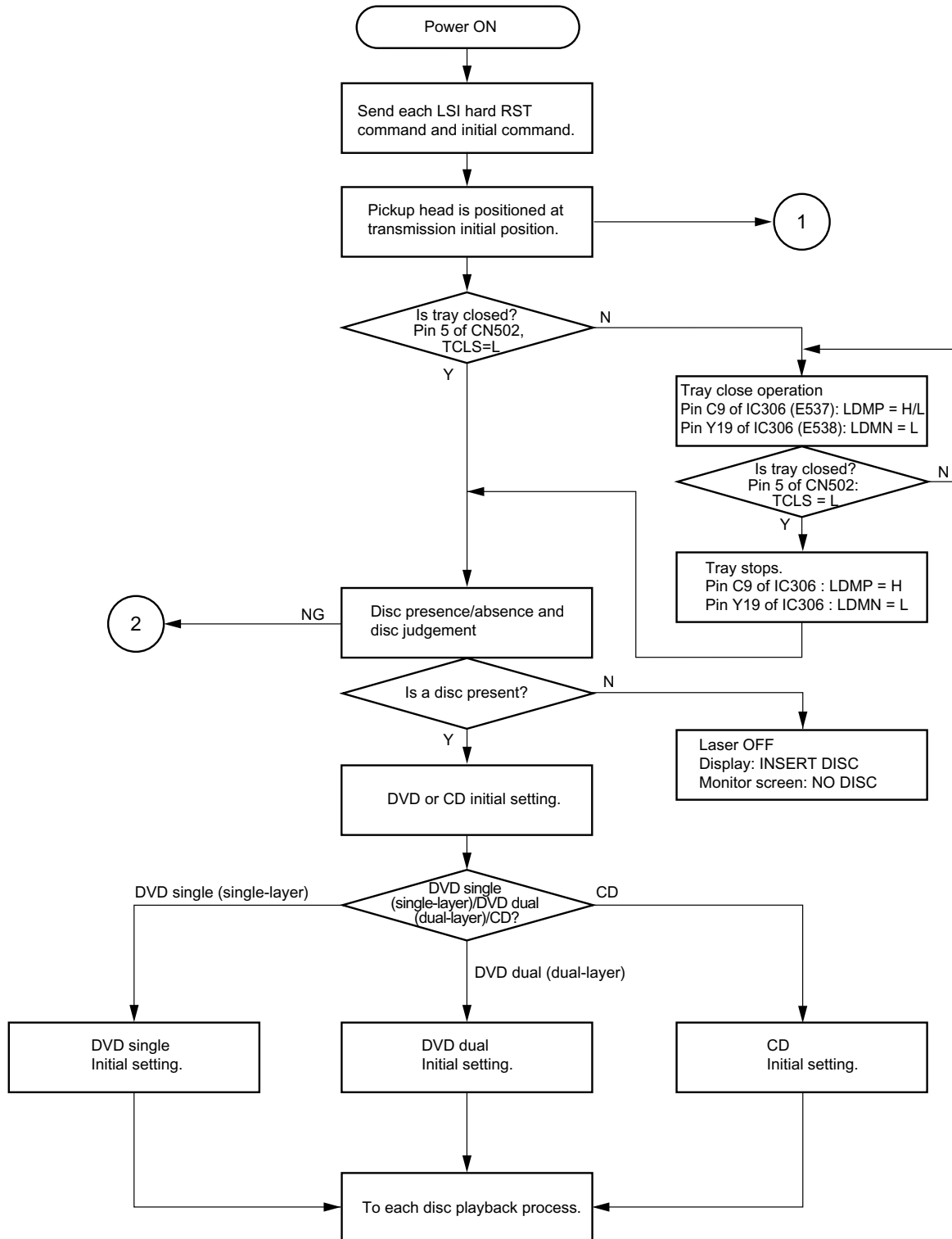


Fig. 1-3-1

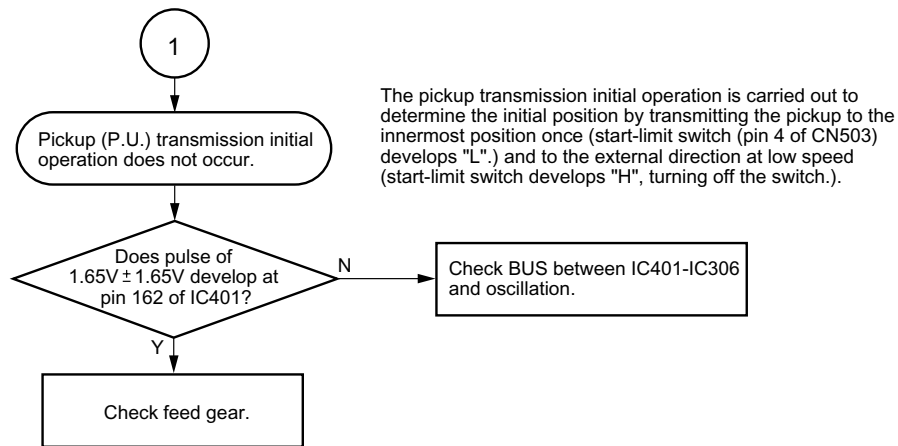


Fig. 1-3-2

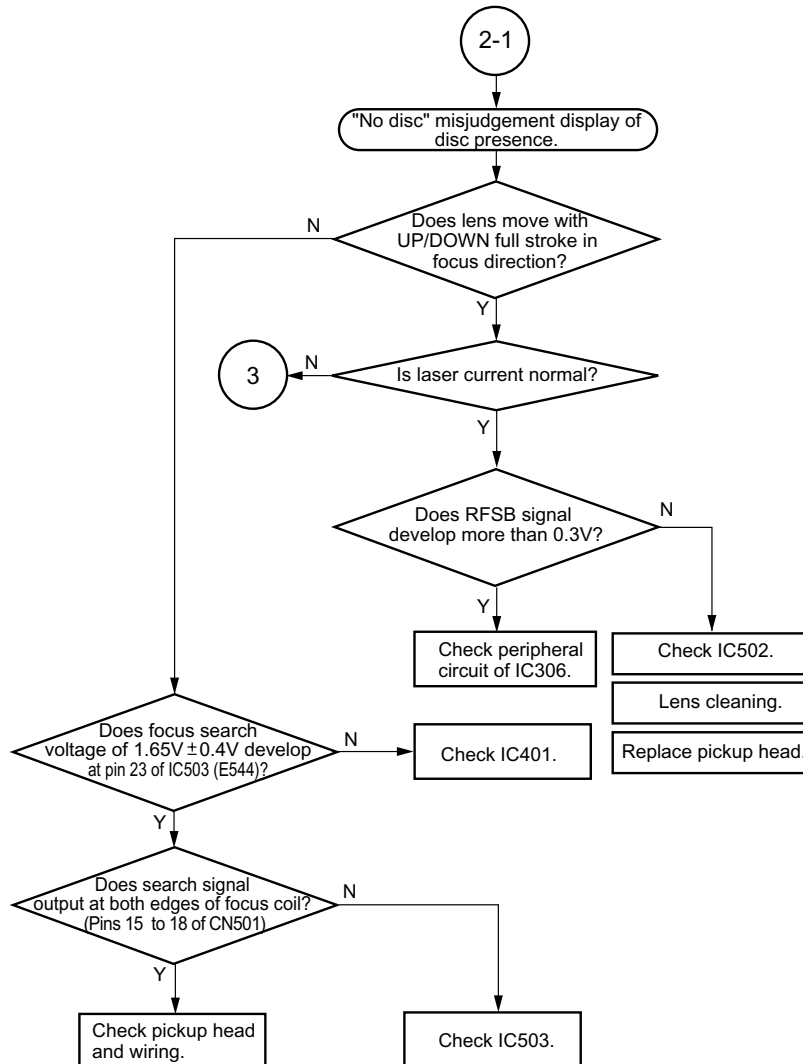


Fig. 1-3-3

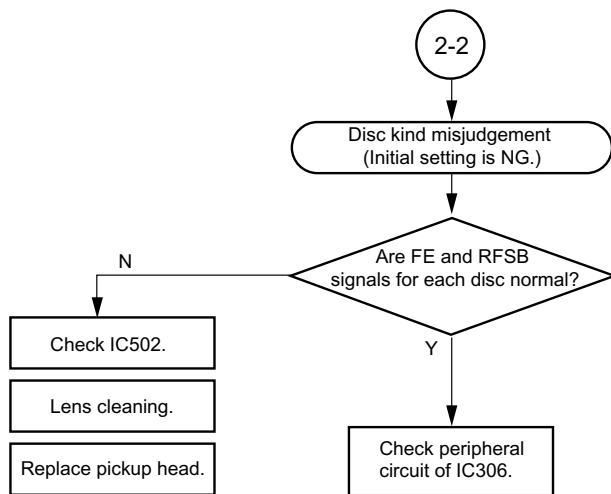
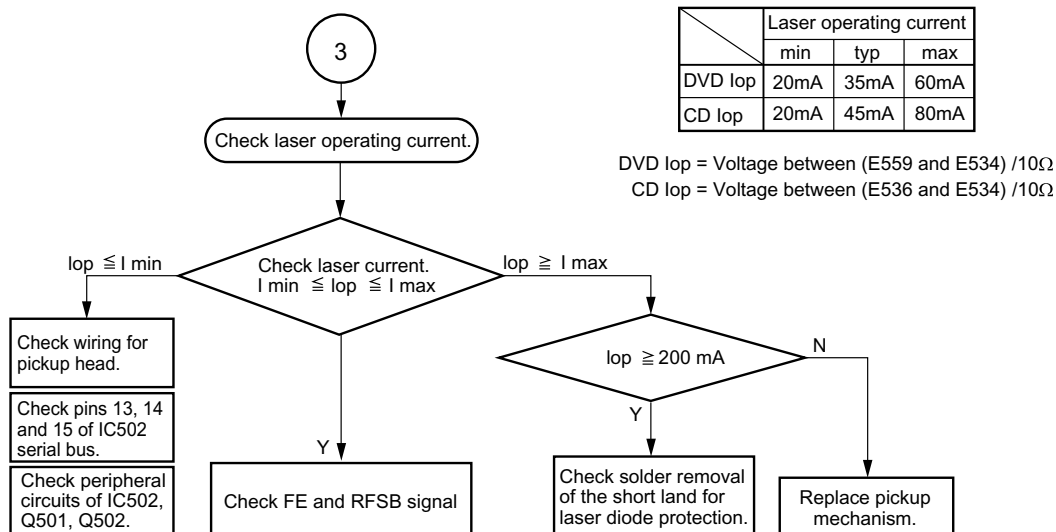


Fig. 1-3-4



To turn on each laser diode forcibly, press the following buttons on the remote controller.

DVD LD: ZOOM, 0, 3, 0, ZOOM

CD LD: ZOOM, 0, 3, 1, ZOOM

After checked the laser current, press POWER or OPEN/CLOSE button to turn it off.

CAUTION

- The laser ray emitting out from the pickup head is very harmful to your eyes. Keep your eyes from the objective lens at least 300mm distance during the pickup head operating.
- When you perform solder removal work, please turn OFF a set power supply and perform the ground of human body and a tool.

Fig. 1-3-5

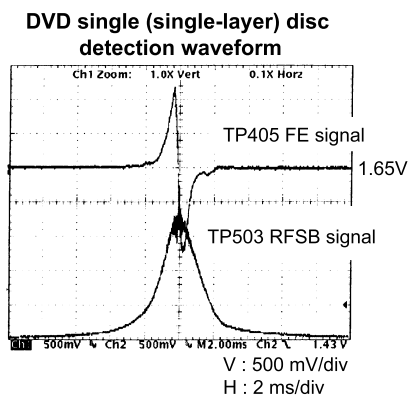


Fig. 1-3-6

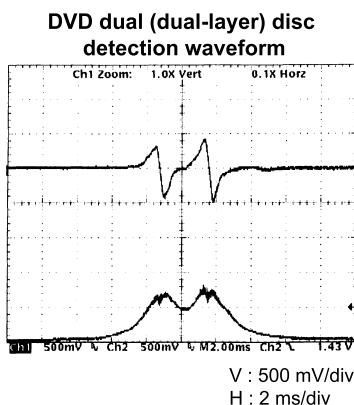


Fig. 1-3-7

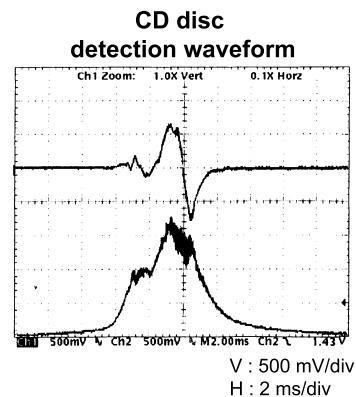


Fig. 1-3-8

(2) Picture appears (PLAY)

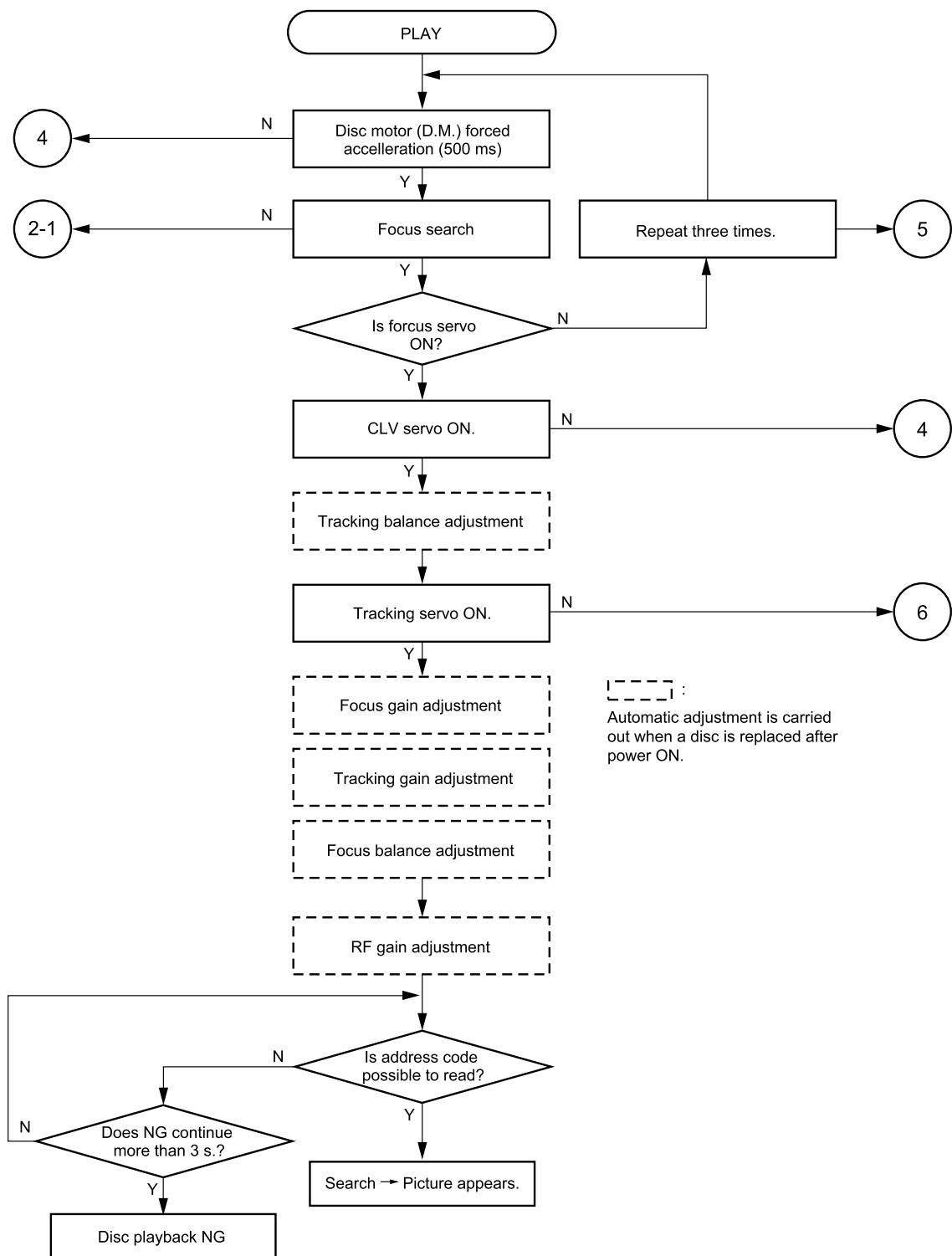


Fig. 1-3-9

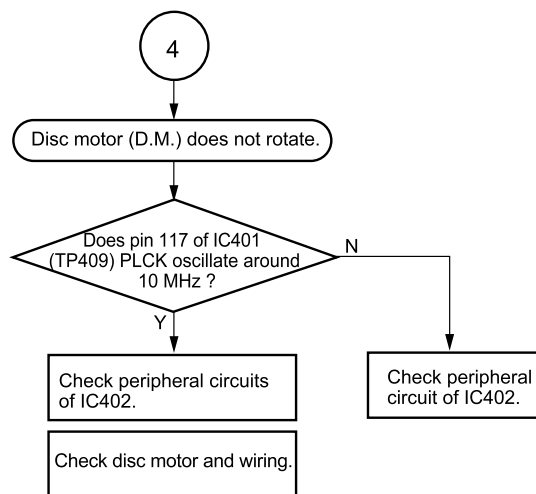


Fig. 1-3-10

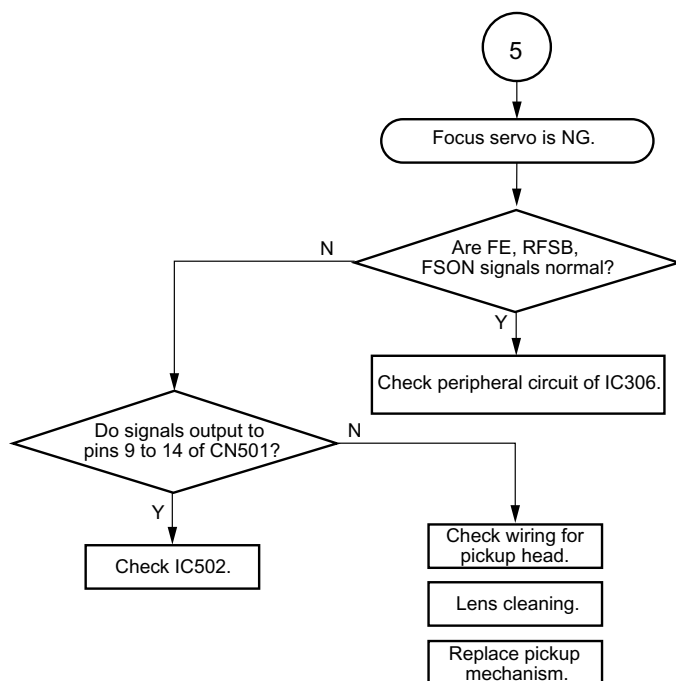


Fig. 1-3-11

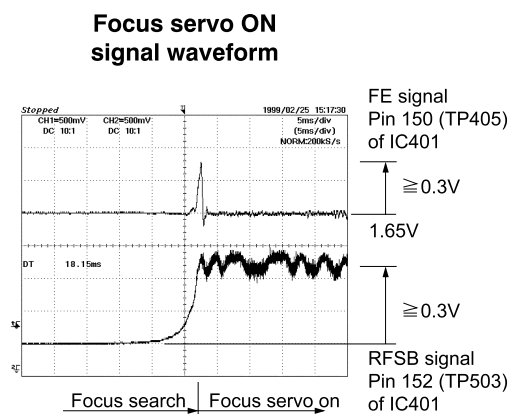


Fig. 1-3-12

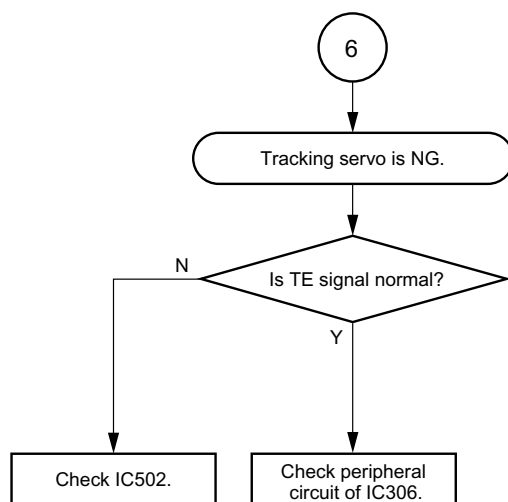


Fig. 1-3-13

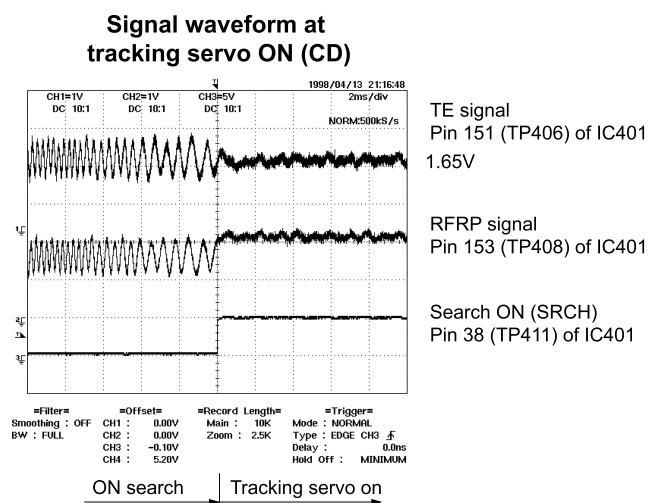


Fig. 1-3-14

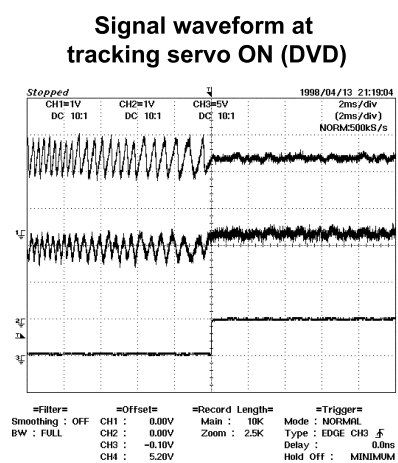


Fig. 1-3-15

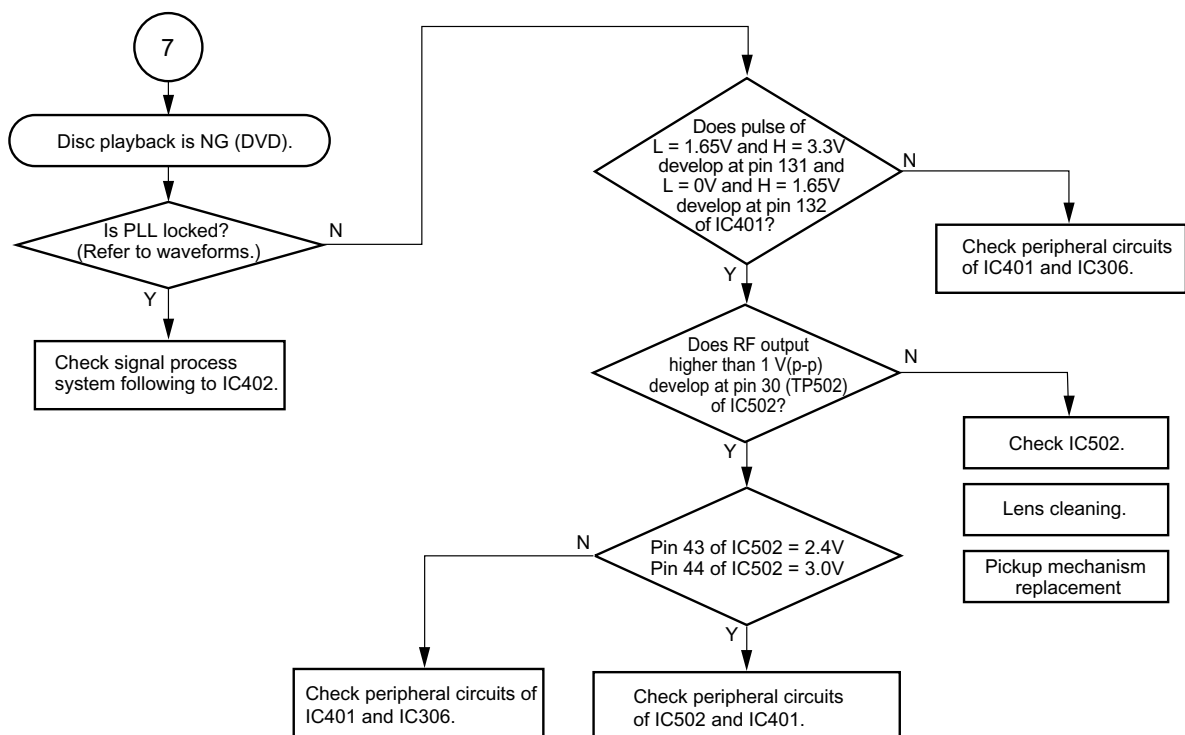


Fig. 1-3-16

PLL works as a servo loop to generate a clock signal for reading RF signal binary data. With the PLL locked, the eye pattern is identified clearly when triggered with the read clock PLCK.

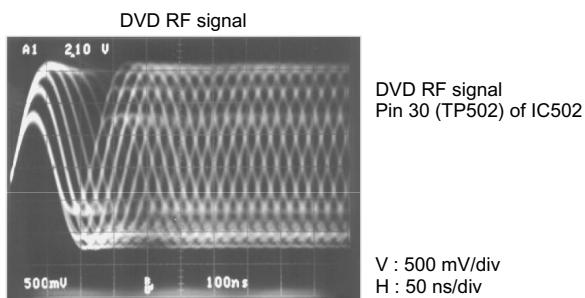


Fig. 1-3-17

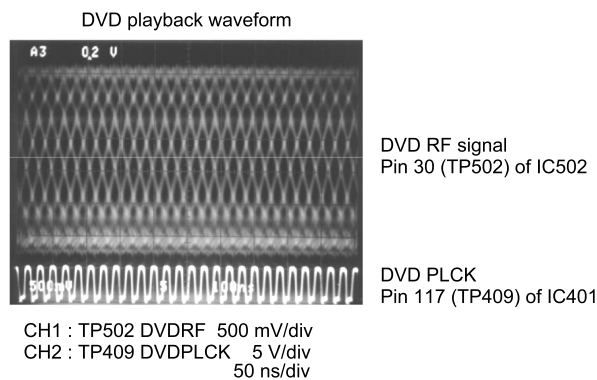


Fig. 1-3-19

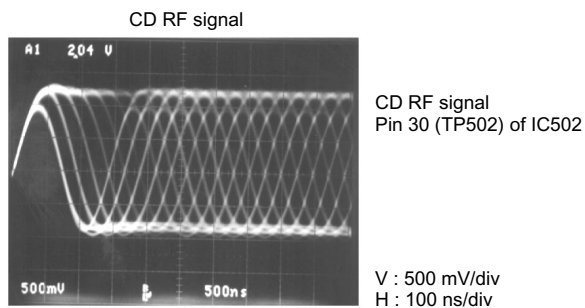


Fig. 1-3-18

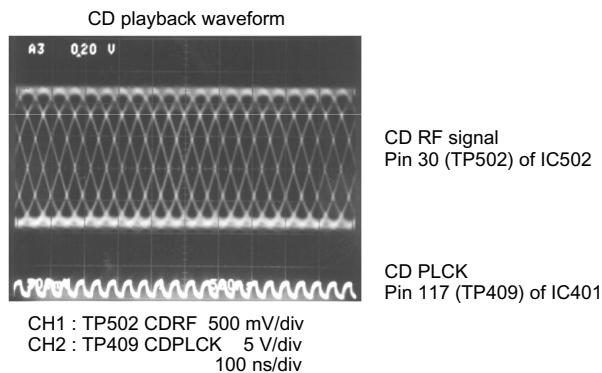


Fig. 1-3-20

3-1-2. Location Diagram of Servo Test Point

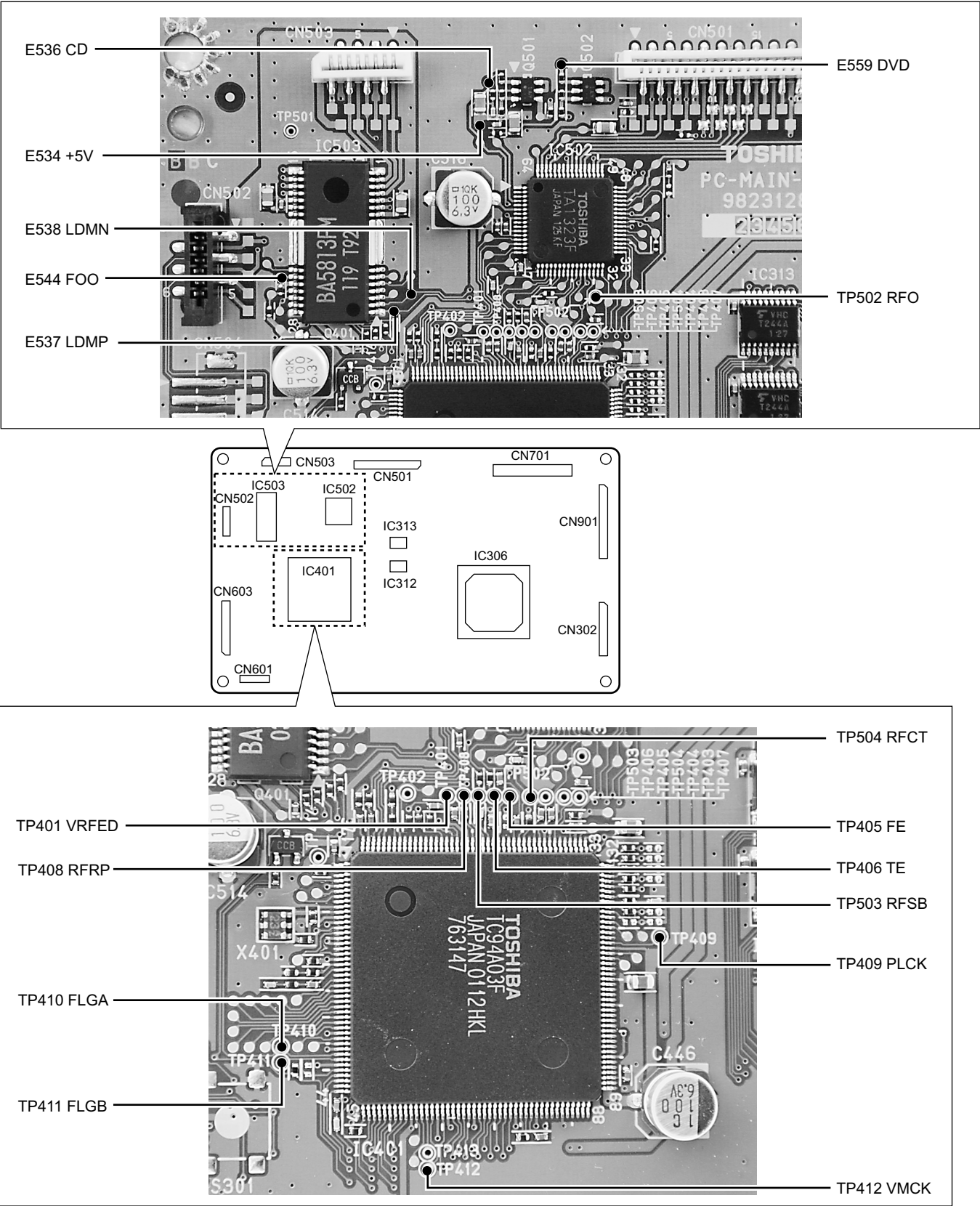


Fig. 1-3-21

SECTION 2

PART REPLACEMENT AND ADJUSTMENT PROCEDURES

CAUTIONS BEFORE STARTING SERVICING

Electronic parts are susceptible to static electricity and may easily be damaged, so do not forget to take a proper grounding treatment as required.

Many screws are used inside the unit. To prevent missing, dropping, etc. of the screws, always use a magnetized screwdriver in servicing. Several kinds of screws are used and some of them need special cautions. That is, take care of the tapping screws securing molded parts and fine pitch screws used to secure metal parts. If they are used improperly, the screw holes will be easily damaged and the parts can not be fixed.

1. REPLACEMENT OF MECHANICAL PARTS

1-1. Cabinet Replacement

1-1-1. Top Cover

1. Remove five screws (1) and remove the top cover (2).

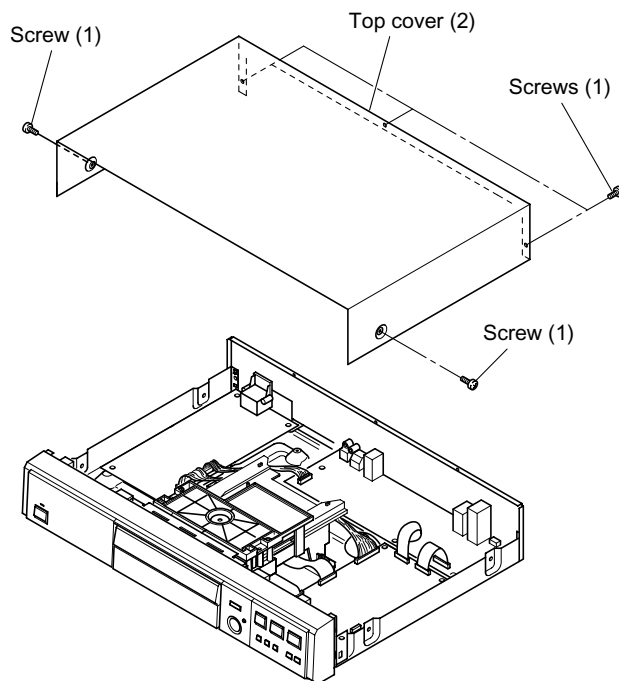


Fig. 2-1-1

1-1-2. Clamper Stay

<Removal>

1. Remove two screws (1).
2. Release two claws and remove the clamper stay (2).

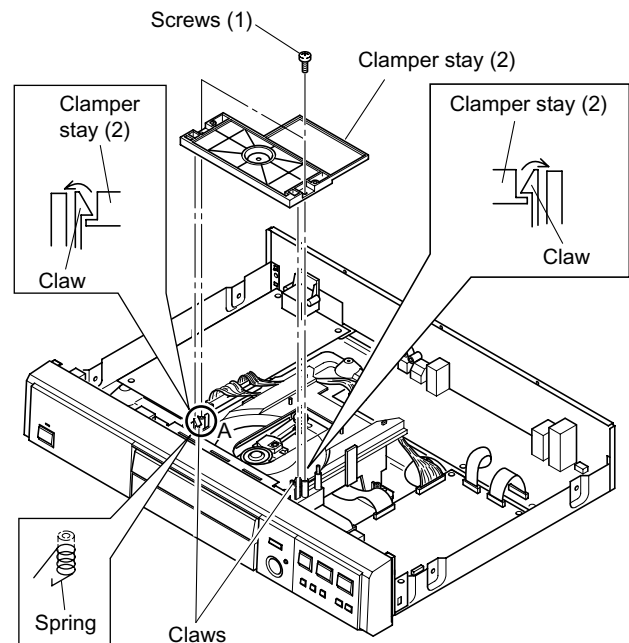
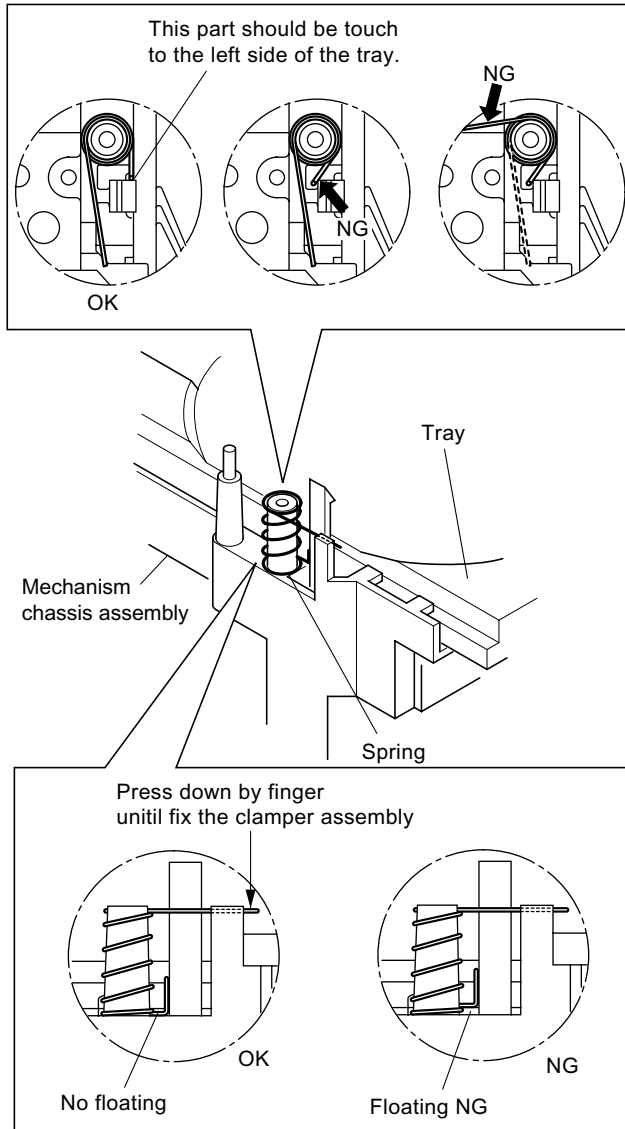


Fig. 2-1-2

<Mounting >

1. The spring for tray side pressure is inserted into the portion "A". (Refer to Fig. 2-1-2.)
2. By referring to Fig. 2-1-3, insert the spring normally and mount the clamber stay.



1-1-3. Tray Panel

<Tray Ejection>

1. Slide the slider (2) of the mechanism chassis assembly (1) with a screwdriver, etc. in the arrow direction, so that the tray (3) is ejected.

Note:

- Take care not to damage the pickup and other parts.

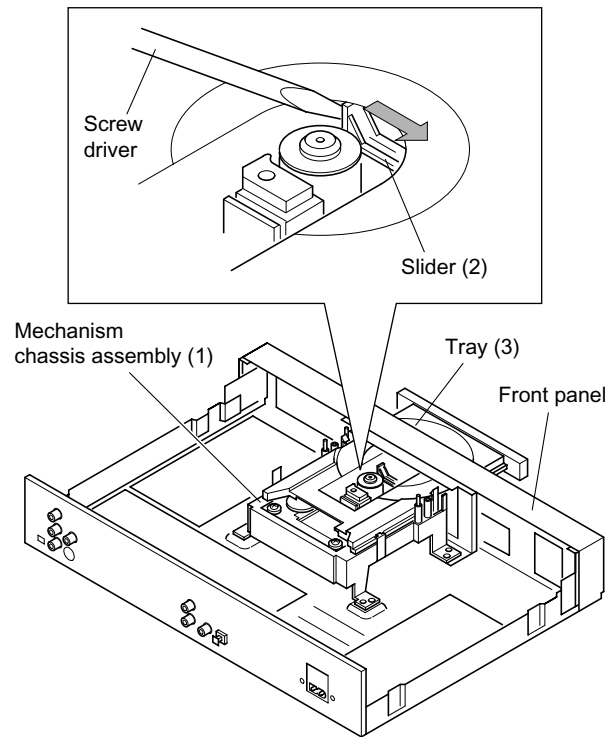


Fig. 2-1-4

<Tray Panel Removal>

1. Eject the tray (3).
2. Twist the tray panel (4) a little in the arrow A direction with the tray (3) hold by hand to release two claws and lift up the tray panel (4) in the arrow B direction, then the tray panel (4) is removed. (Refer to Fig. 2-1-5.)
3. When mounting the tray panel (4), insert the tray panel (4) along the grooves of the both sides of the tray (3) until clicking.

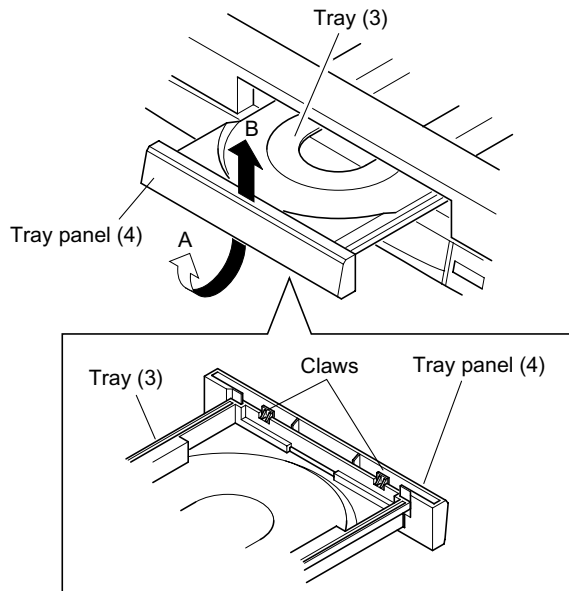


Fig. 2-1-5

1-1-4. Front Panel and Tray

1. Remove the flexible cable (1).
2. Remove one screw (2) and remove the GND lead (5).
3. Release four claws and remove the front panel (4).
4. Pull out the tray (3) to this side.

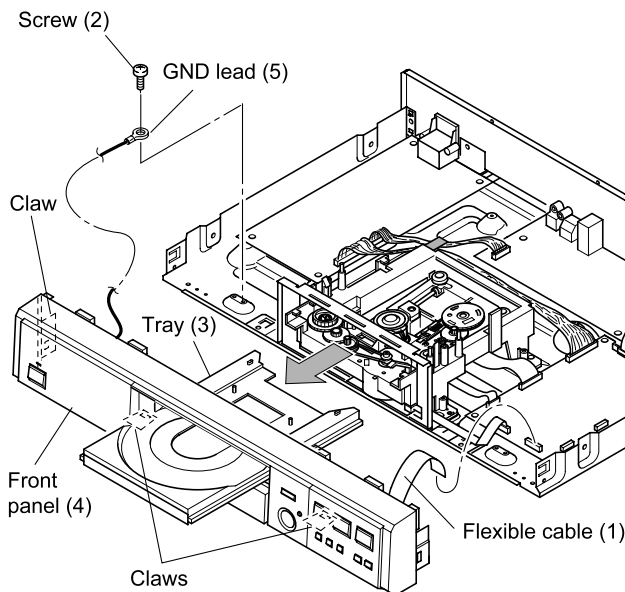


Fig. 2-1-6

Note:

- Insert the tray (3) with the front side of the pickup mechanism assembly descended. (The slider positions to the left side.)
- The gears are required to match their phases each other. After setting the gear (4) as shown in the figure "A", insert the tray (3). When inserting a tray (3), push the rack gear side shown by the arrow.

- Confirm that the mark of the gear matches with the triangle mark on the reverse side of the tray in the tray close status. (The gear is rotated with the slider locks.) (Refer to Fig. B.)

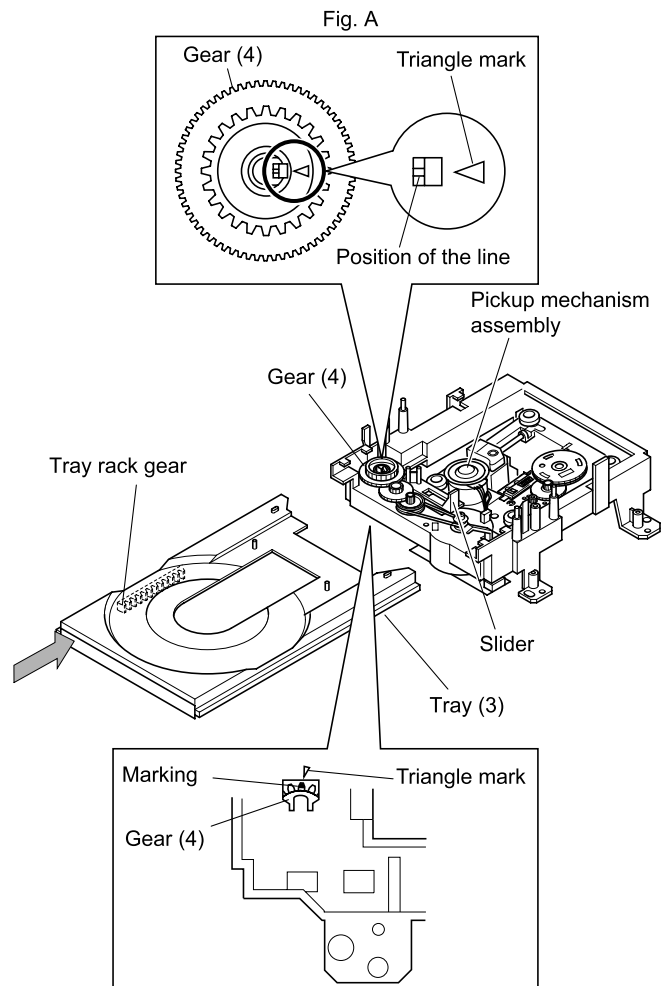


Fig. B

Fig. 2-1-7

1-1-5. Rear Panel

1. Remove eight screws (1) and remove the rear panel (2).

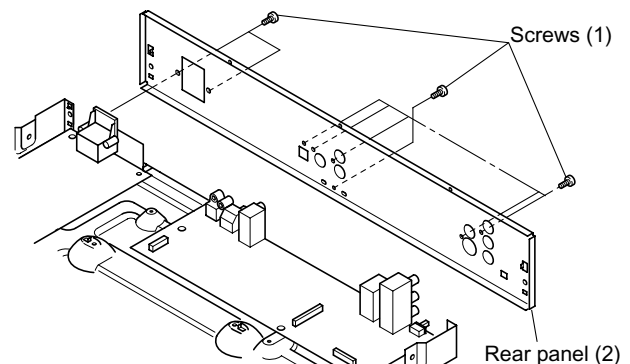


Fig. 2-1-8

1-2. PC Board Replacement

1-2-1. Main PC Board

Note:

- Before removing the main PC board (4), be sure to short-circuit the laser diode output land.

After replacing, open the land as it was after inserting the flexible cables (1).

- Remove the top cover. (Refer to item 1-1-1.)
- Remove six flexible cables (1) and remove one connector (2).
- Remove four screws (3).
- Remove the main PC board (4).

Note:

- When mounting, be sure to twist the wire for the connector (2) several times.

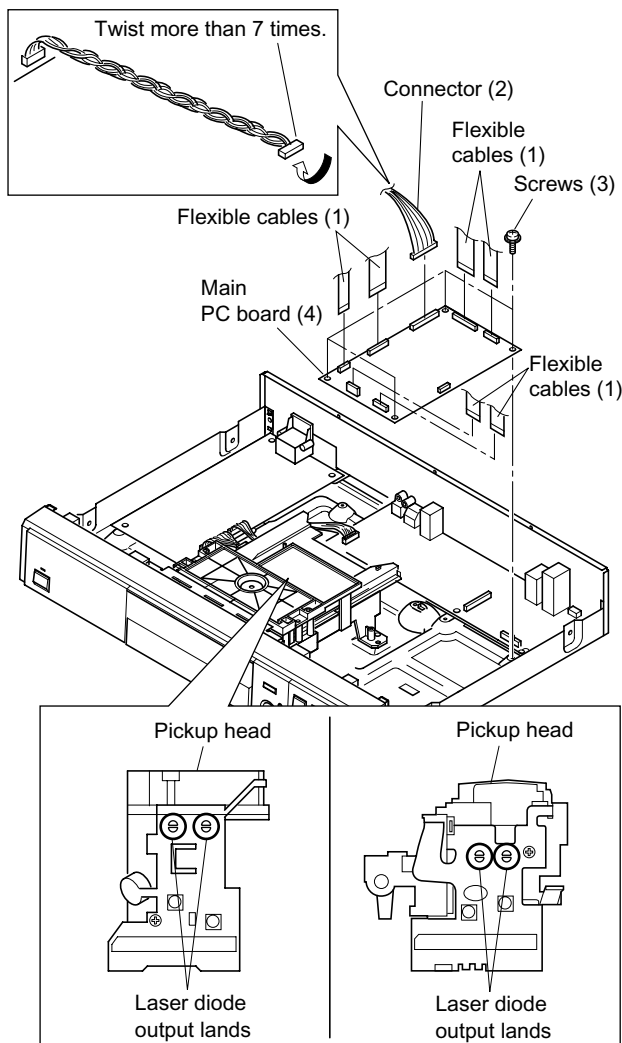


Fig. 2-1-9

1-2-2. Output PC board

- Peel off the tape (1).
- Remove the connector (2).
- Disconnect two flexible cables (3).
- Remove three screws (4).
- Remove five screws (5) and remove the output PC board (6).

Note:

- When mounting, be sure to twist the wire for the connectors (2) several times.

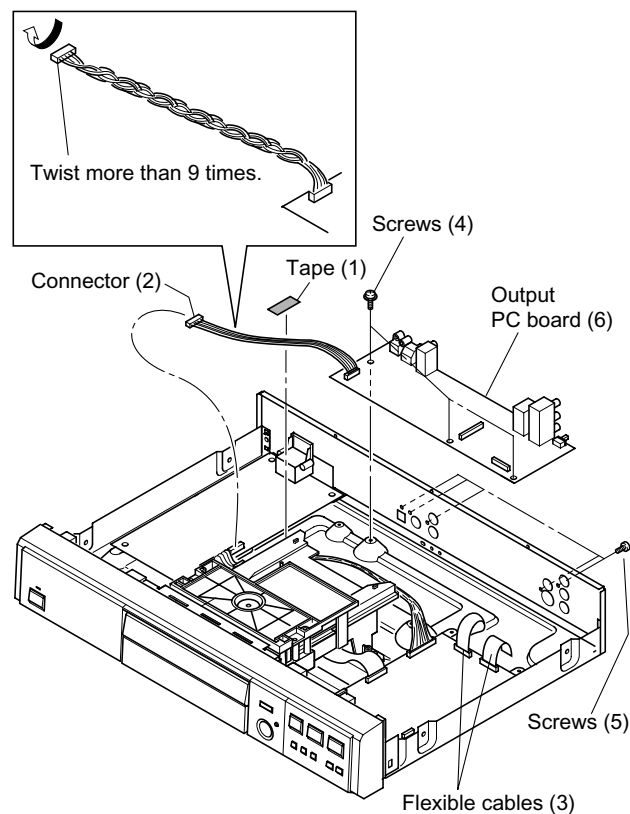


Fig. 2-1-10

1-2-3. Power Supply PC Board

1. Peel off the tape (1).
2. Remove the connectors (2) and (3).
3. Remove three screws (4).
4. Remove two screws (5).
5. Remove the power supply PC board (6).

Note:

- When mounting, be sure to twist the wire for the connectors (2) and (3) several times.

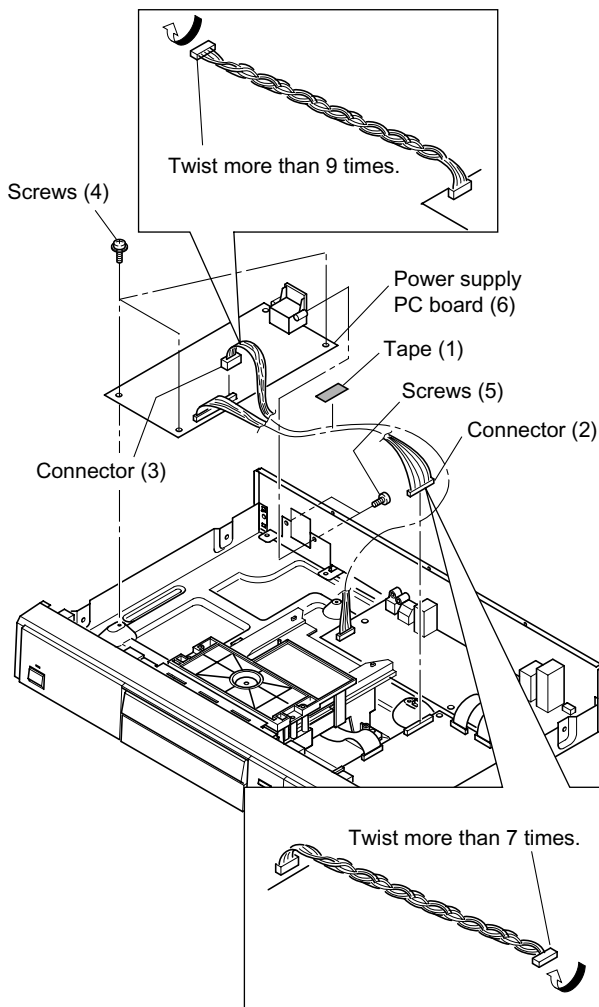


Fig. 2-1-11

1-2-4. Front PC Board

1. Remove the front panel. (Refer to item 1-1-4.)
2. Remove one flexible cable (1).
3. Remove six screws (2) and remove the front display PC board (3).
4. Remove two screws (4) and remove the power switch PC board (5).
5. Remove three screws (6) and the ENTER switch (7).

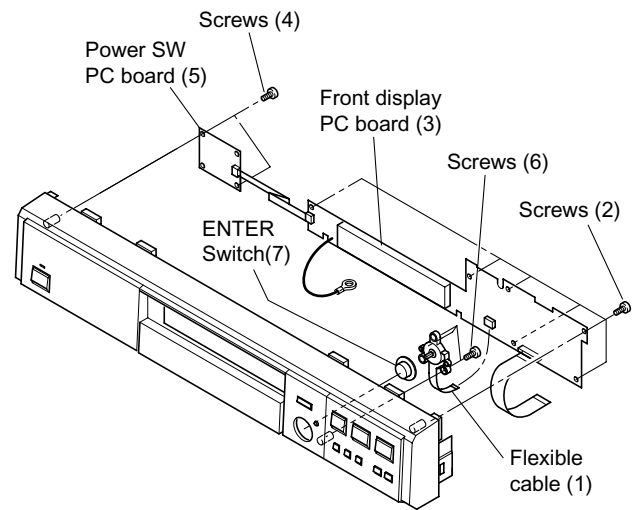


Fig. 2-1-12

1-3. Mechanism Parts

1-3-1. Mechanism Chassis Assembly

Note:

- When removing the mechanism chassis assembly (3), be sure to short-circuit the laser diode output land before removing the connector and the flexible cables. After replacing, open the land as it was after inserting the connector and flexible cables.

- Remove the tray. (Refer to items 1-1-3 and 1-1-4.)
- Remove three flexible cables (1).
- Remove four screws (2) and remove the mechanism chassis assembly (3).

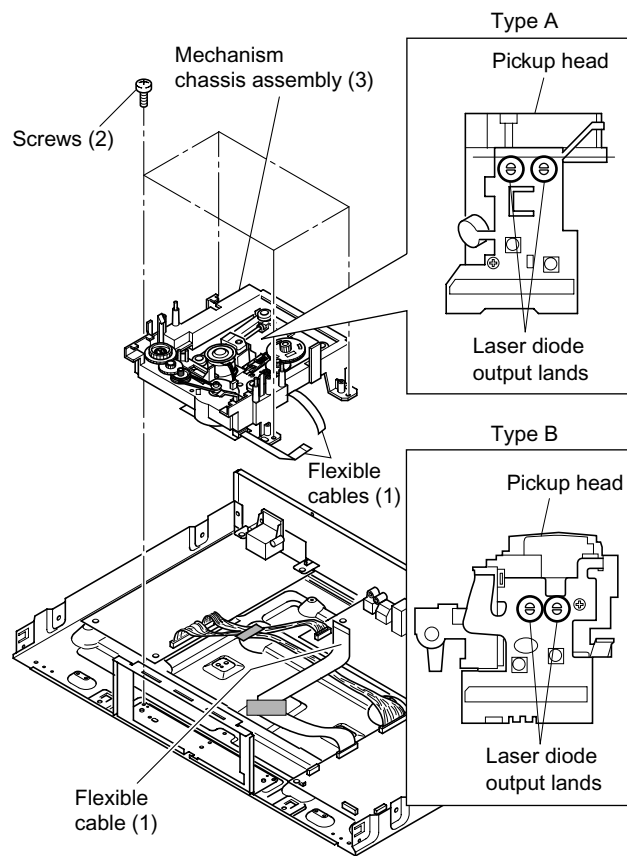


Fig. 2-1-13

1-3-2. Loading Belt

- Remove the gear (1) by releasing the claw.
- Remove the gear (2).
- Remove the gear (3) and the loading belt (4).
- Replace the loading belt (4) with a new one.
- When mounting, perform the reverse order of the removal.

Note:

- When mounting the loading belt (4), twisting and attaching of a grease, etc. are not allowed.

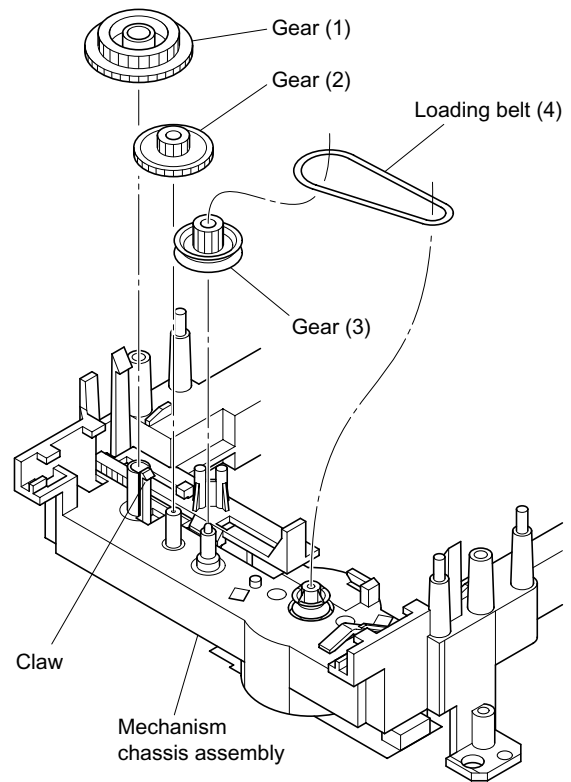


Fig. 2-1-14

1-3-3. Loading Motor

1. Remove the loading belt. (Refer to item 1-3-2.)
2. Remove two screws (1) and two claws. Then remove the loading motor (2) (with the loading motor PC board (3) attached).
3. Desolder the terminal section of the loading motor (2) and remove the loading motor PC board (3).
4. Replace the loading motor (2) with a new one.
5. When mounting, perform the reverse order of the removal.

Note:

- When replacing the loading motor, meet the polarity phase of the terminals. (Mount the motor with the label positioned as shown in Fig. 2-1-15.)

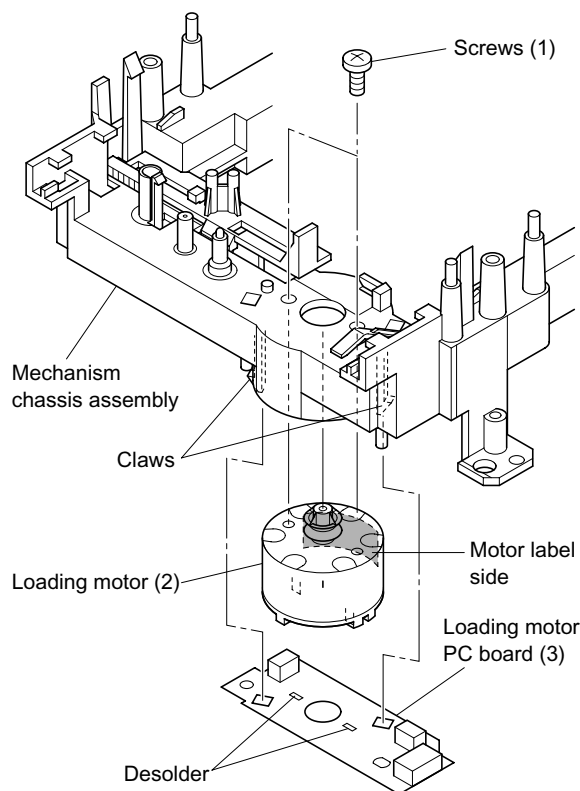


Fig. 2-1-15

1-3-4. Sub Chassis (with a pickup mechanism)

1. Turn the mechanism chassis assembly (1) upside down.
2. Remove one screw (2) and one washer (3) release the boss "A" from the claw. Then remove the sub chassis (4) (with the pickup mechanism) by sliding in the arrow direction.
3. When mounting, perform the reverse order of the removal.

Note:

- When mounting the sub chassis (4) (with the pickup mechanism), first, insert the boss "C" along the groove of the cam slider up/down cam (5) and next, the boss "B" and "A".
- The boss "A" may be used with washers. (One or two washers are used to prevent from the slust rattling. In some cases, no washer is used.)

When the washer(s) is used, be sure to assemble as it was without losing.

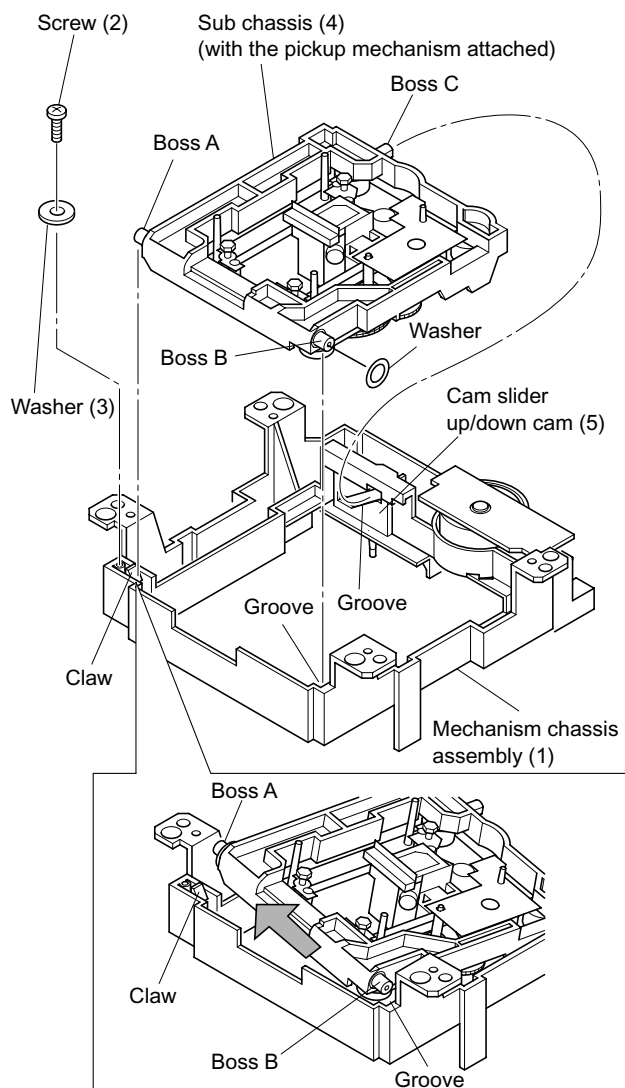


Fig. 2-1-16

1-3-5. Pickup Mechanism Assembly

<Removal>

1. Remove four screws (1) and four washers (2) then remove the pickup mechanism assembly (3).

<Mounting>

1. Replace the pickup mechanism assembly (3) with a new one.
2. When mounting, perform the reverse order of the removal.

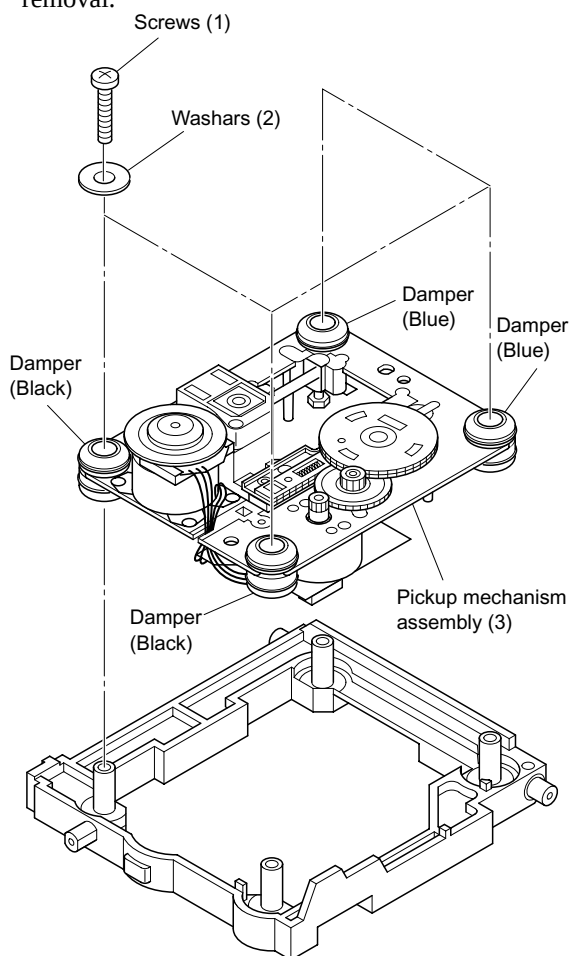


Fig. 2-1-17

Note:

- The dampers' color differs when used for the front side and the rear.
- When mounting the pickup mechanism assembly (2) with the screws (1), push the pickup mechanism assembly (2) downward without being caught and tighten the screws (1) after placing the washer with the damper bent.

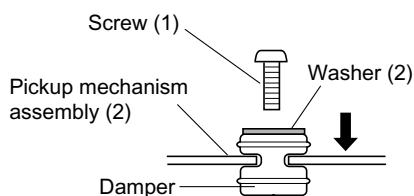


Fig. 2-1-18

1-3-6. Gear B Assembly, Gear A and Rack Gear Assembly

<Removal>

1. Remove one screw (3) and remove the gear B assembly (1).
2. Remove the gear A (2).
3. Remove one screw (5) and remove the rack gear assembly (4).

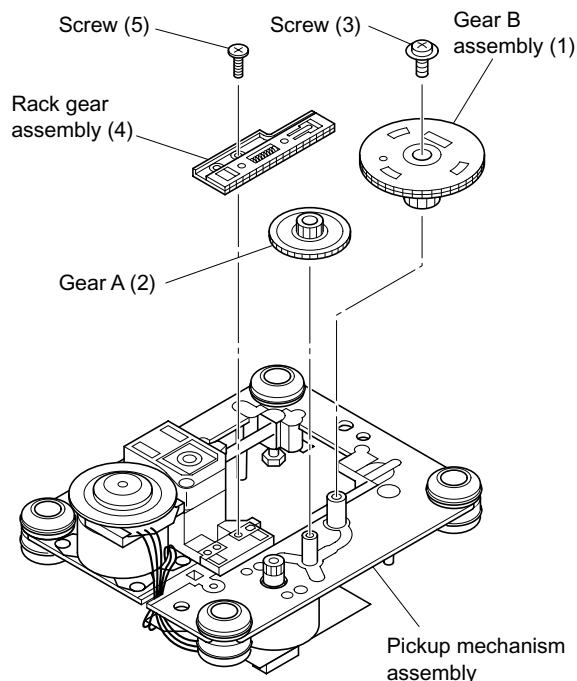


Fig. 2-1-19

<Mounting>

1. When mounting, perform the reverse order of the removal.
2. Mount the gear B assembly (1) by pushing the pickup head (5) to the disc motor side (arrow A direction) and shifting the upper gear of the rack gear assembly (4) in the arrow B direction. (Refer to Fig. 2-1-20.)
3. Fit the positioning holes on the upper gear and lower gear of the gear B assembly (1) and mount on the pickup mechanism assembly with the phase matched. At this time, note that the phase of the gear B assembly (1) and the gear A (2) shows the status in the Fig. 2-1-21.

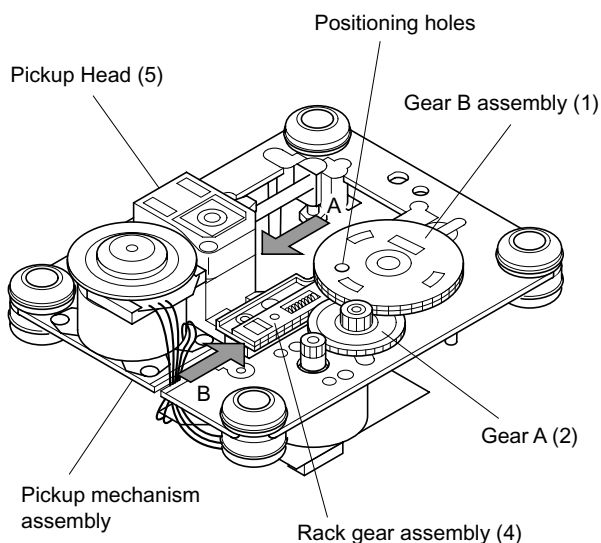


Fig. 2-1-20

Note:

- Mount the gear B assembly (1) and the gear A (2) with their gear teeth placed more than one tooth at least inside the shaded portion.

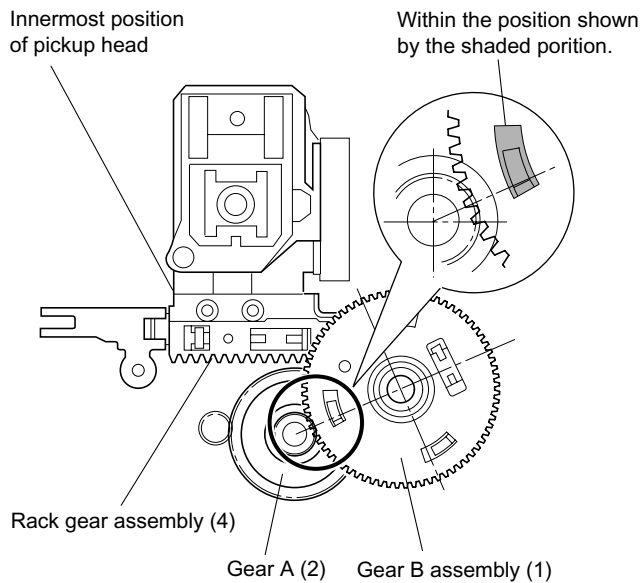


Fig. 2-1-21

1-3-7. Feed Motor

<Removal>

1. Remove the gear B assembly and the gear A. (Refer to item 1-3-6.)
2. Remove two screws (1) and remove the feed motor (2) (with the feed motor PC board (3) attached). (Refer to Fig. 2-1-22.)
3. Desolder the terminals of the feed motor (2) and remove the feed motor PC board (3).

<Mounting>

1. Tighten the feed motor (2) on the pickup mechanism assembly with two screws (1).
2. Insert the feed motor PC board (3) with the positioning pin on the chassis matched and solder the terminals.
3. Perform the reverse order of the removal.

Note:

- After mounting, put the lead wires through the notch of the pickup mechanism assembly.
- When replacing the loading motor, meet the polarity phase of the terminals. (Mount the motor with the label positioned as shown in Fig. 2-1-22.)

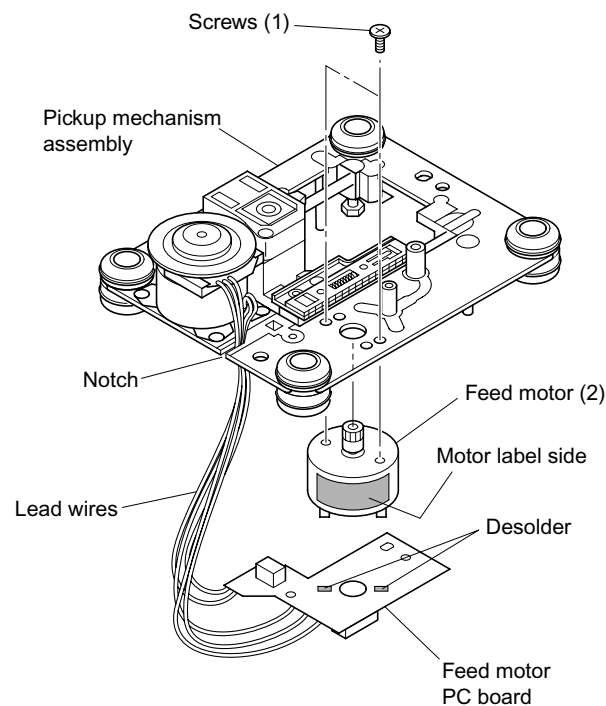


Fig. 2-1-22

SECTION 3

SERVICING DIAGRAMS

1. STANDING PC BOARDS FOR SERVICING

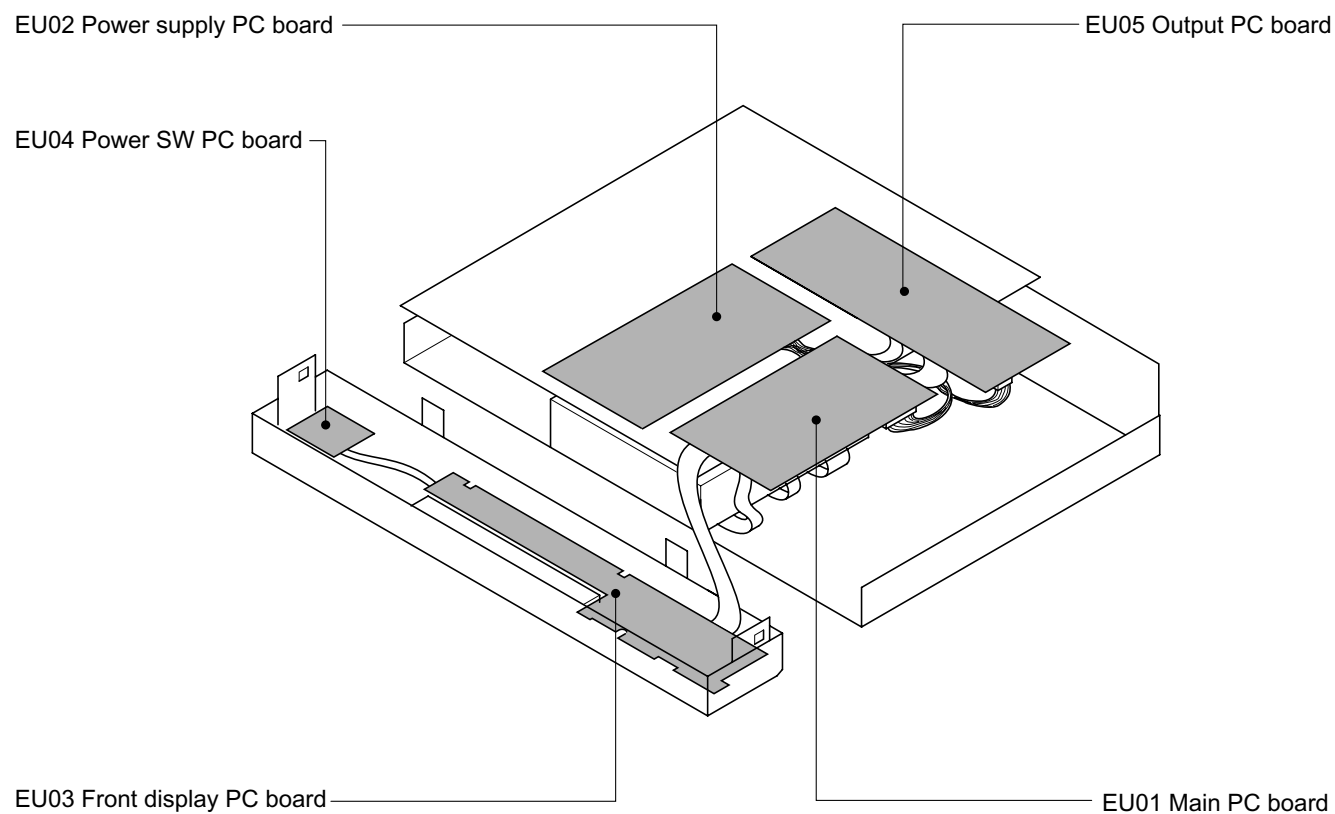


Fig. 3-1-1

2. CIRCUIT SYMBOLS AND SUPPLEMENTARY EXPLANATION

2-1. Precautions for Part Replacement

- In the schematic diagram, parts marked $\triangle$ (ex. $\triangle$ F801) are critical part to meet the safety regulations, so always use the parts bearing specified part codes (SN) when replacing them.
- Using the parts other than those specified shall violate the regulations, and may cause troubles such as operation failures, fire etc.

2-2. Solid Resistor Indication

Unit	None Ω K $k\Omega$ M $M\Omega$
Tolerance	None $\pm 5\%$ B $\pm 0.1\%$ C $\pm 0.25\%$ D $\pm 0.5\%$ F $\pm 1\%$ G $\pm 2\%$ K $\pm 10\%$ M $\pm 20\%$
Rated Wattage	(1) Chip Parts None 1/16W (2) Other Parts None 1/6W Other than above, described in the Circuit Diagram.
Type	None Carbon film S Solid R Oxide metal film W Metal film W Cement FR Fusible

Fig. 1

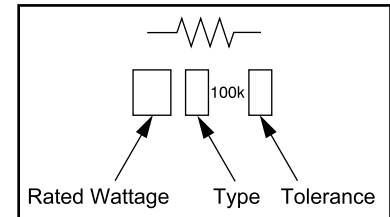


Fig. 3-2-1

2-3. Capacitance Indication

Symbol	$\begin{array}{l} \text{---} \text{ } \text{---} \text{+} \\ \text{---} \text{ } \text{---} \text{NP} \\ \text{---} \text{ } \text{---} \\ \text{---} \text{ } \text{---} \text{M} \\ \text{---} \text{ } \text{---} \end{array}$ Electrolytic, Special electrolytic Non polarity electrolytic Ceramic, plastic Film Trimmer
Unit	None F μ μF p pF
Rated voltage	None 50V For other than 50V and electrolytic capacitors, described in the Circuit Diagram.
Tolerance	(1) Ceramic, plastic, and film capacitors of which capacitance are more than 10 pF. None $\pm 5\%$ or more B $\pm 0.1\%$ C $\pm 0.25\%$ D $\pm 0.5\%$ F $\pm 1\%$ G $\pm 2\%$ (2) Ceramic, plastic, and film capacitors of which capacitance are 10 pF or less. None more than $\pm 5\%$ pF B ± 0.1 pF C ± 0.25 pF (3) Electrolytic, Trimmer Tolerance is not described.
Temperature characteristic (Ceramic capacitor)	None SL For others, temperature characteristics are described. (For capacitors of 0.01 μF and no indications are described as F.)
Static electricity capacity (Ceramic capacitor)	Sometimes described with abbreviated letters as shown in Eg. 3.

Fig. 2

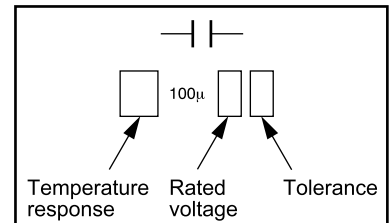


Fig. 3-2-2

Eg. 3

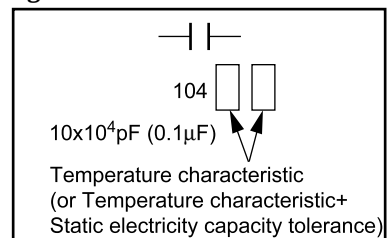


Fig. 3-2-3

2-4. Inductor Indication

Unit	None	 H
	μ	 μH
	m	 mH
Tolerance	None	 ±5%
	B	 ±0.1%
	C	 ±0.25%
	D	 ±0.5%
	F	 ±1%
	G	 ±2%
	K	 ±10%
	M	 ±20%

Eg. 4

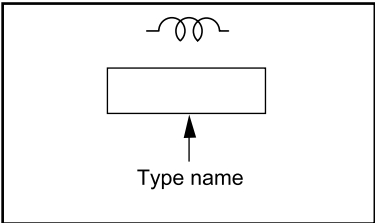


Fig. 3-2-4

2-5. Waveform and Voltage Measurement

- The waveforms for CD/DVD and RF shown in the circuit diagrams are obtained when a test disc is played back.
- All voltage values except the waveforms are expressed in DC and measured by a digital voltmeter.

2-6. Others

- The parts indicated with "NC" or "KETU" etc. are not used in the circuits of this model.

Eg. 5

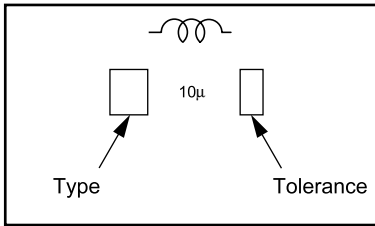


Fig. 3-2-5

3. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

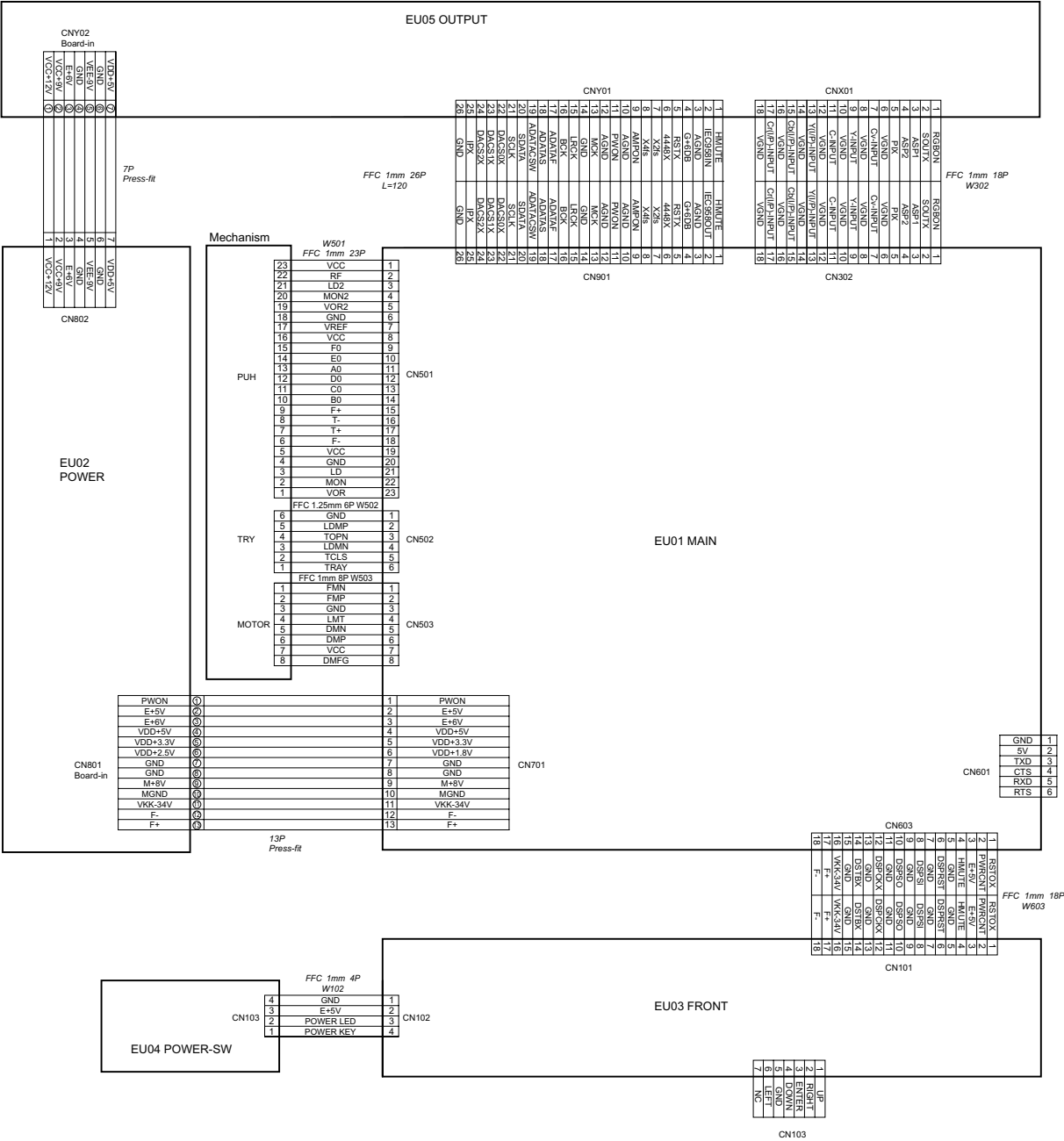


Fig. 3-3-1

4. BLOCK DIAGRAMS

4-1. Overall Block Diagram

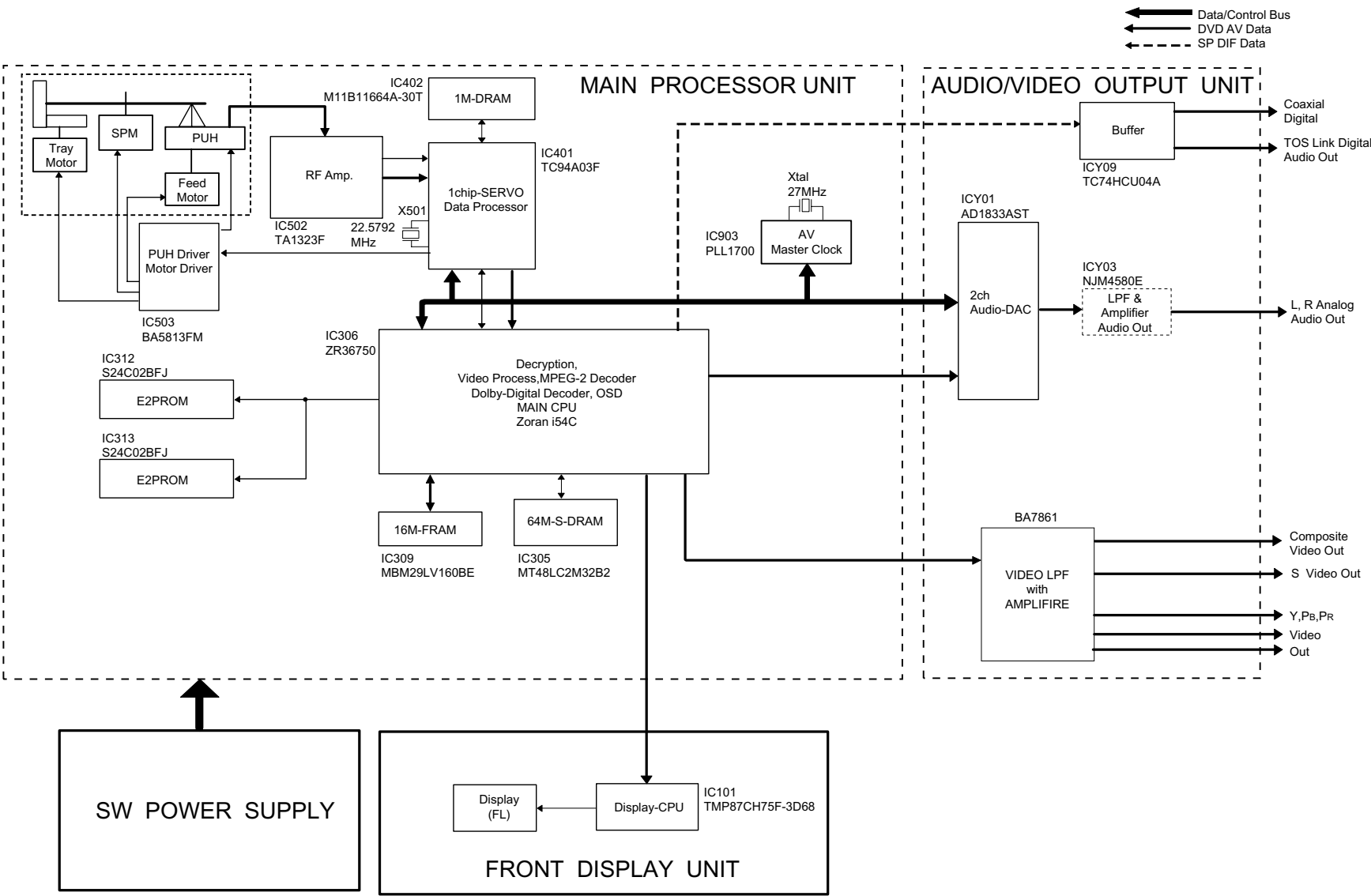


Fig.3-4-1

4-2. Power Supply Block Diagram

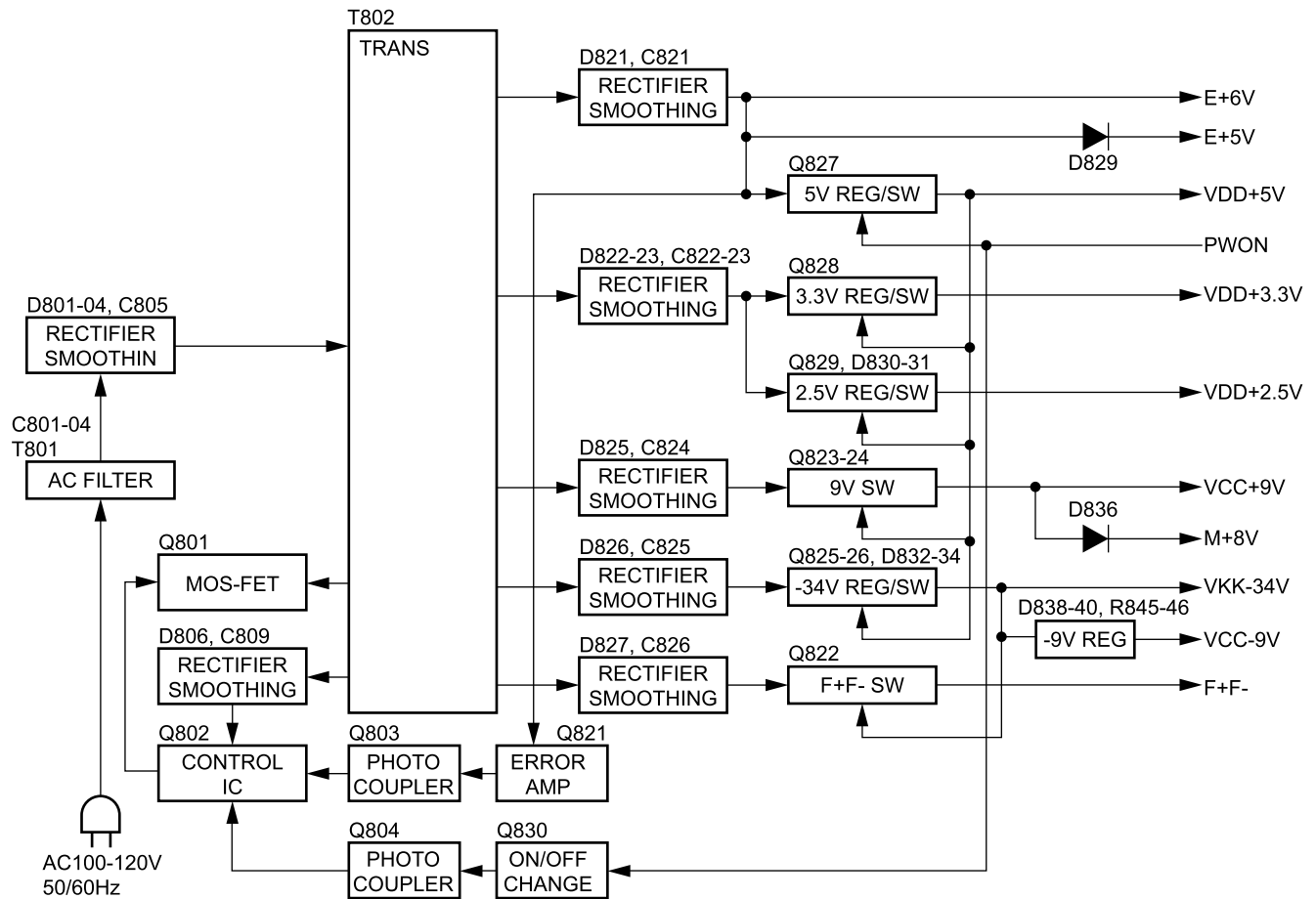


Fig. 3-4-2

4-3. Front Display, Power Switch Block Diagram

4-3-1. Front Display

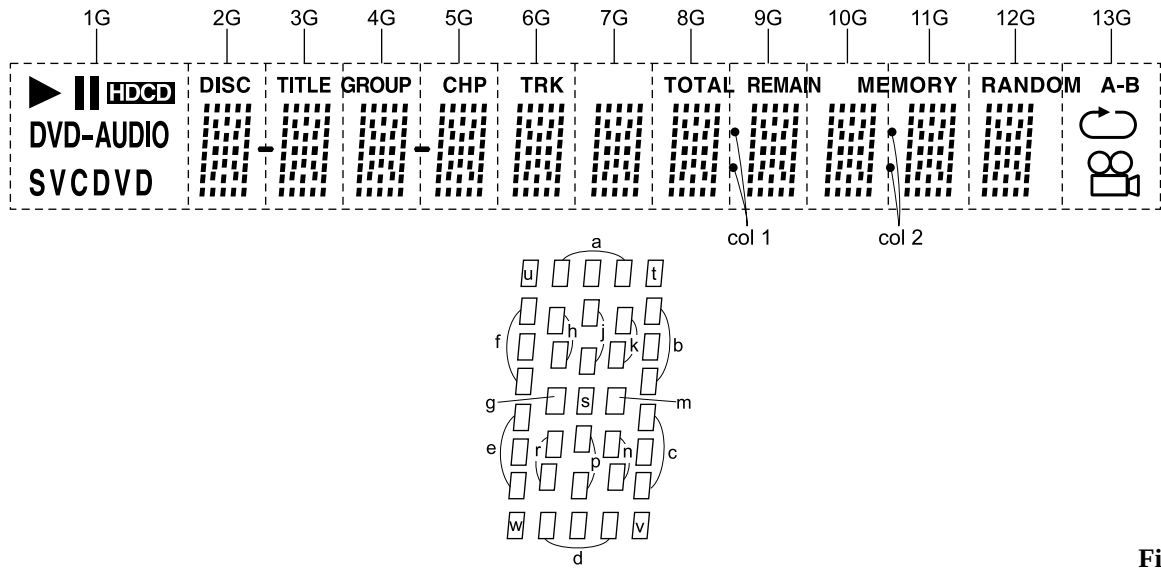


Fig. 3-4-3

4-3-2. Front Display Pattern

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	13G	14G
P1	▶	a	a	a	a	a	a	a	a	a	a	a	A
P2	⏸	b	b	b	b	b	b	b	b	b	b	b	-B
P3	HD	j	j	j	j	j	j	j	j	j	j	j	↻
P4	DVD	h	h	h	h	h	h	h	h	h	h	h	—
P5	-AUDIO	k	k	k	k	k	k	k	k	k	k	k	—
P6	S	f	f	f	f	f	f	f	f	f	f	f	—
P7	V	g	g	g	g	g	g	g	g	g	g	g	⏮
P8	C	s	s	s	s	s	s	s	s	s	s	s	—
P9	D	m	m	m	m	m	m	m	m	m	m	m	—
P10	VD	c	c	c	c	c	c	c	c	c	c	c	—
P11	—	r	r	r	r	r	r	r	r	r	r	r	—
P12	—	n	n	n	n	n	n	n	n	n	n	n	—
P13	—	p	p	p	p	p	p	p	p	p	p	p	—
P14	—	e	e	e	e	e	e	e	e	e	e	e	—
P15	—	d	d	d	d	d	d	d	d	d	d	d	—
P16	—	t	t	t	t	t	t	t	t	t	t	t	—
P17	—	u	u	u	u	u	u	u	u	u	u	u	—
P18	—	v	v	v	v	v	v	v	v	v	v	v	—
P19	—	w	w	w	w	w	w	w	w	w	w	w	—
P20	—	-			—	—	—	col 1		—	—	—	—
P21	—	—	—	-			—	—	—	—	col 2		—
P22	—	DISC	TITLE	—	CHP	TRK	—	TOTAL		—	—	RANDOM	
P23	—	—	—	—	—	—	—	—	—	MEMORY		—	—
P24	—	—	GROUP			—	—	—	REMAIN		—	—	—

Fig. 3-4-4

4-3-3. Front Display, Power Switch Block Diagram

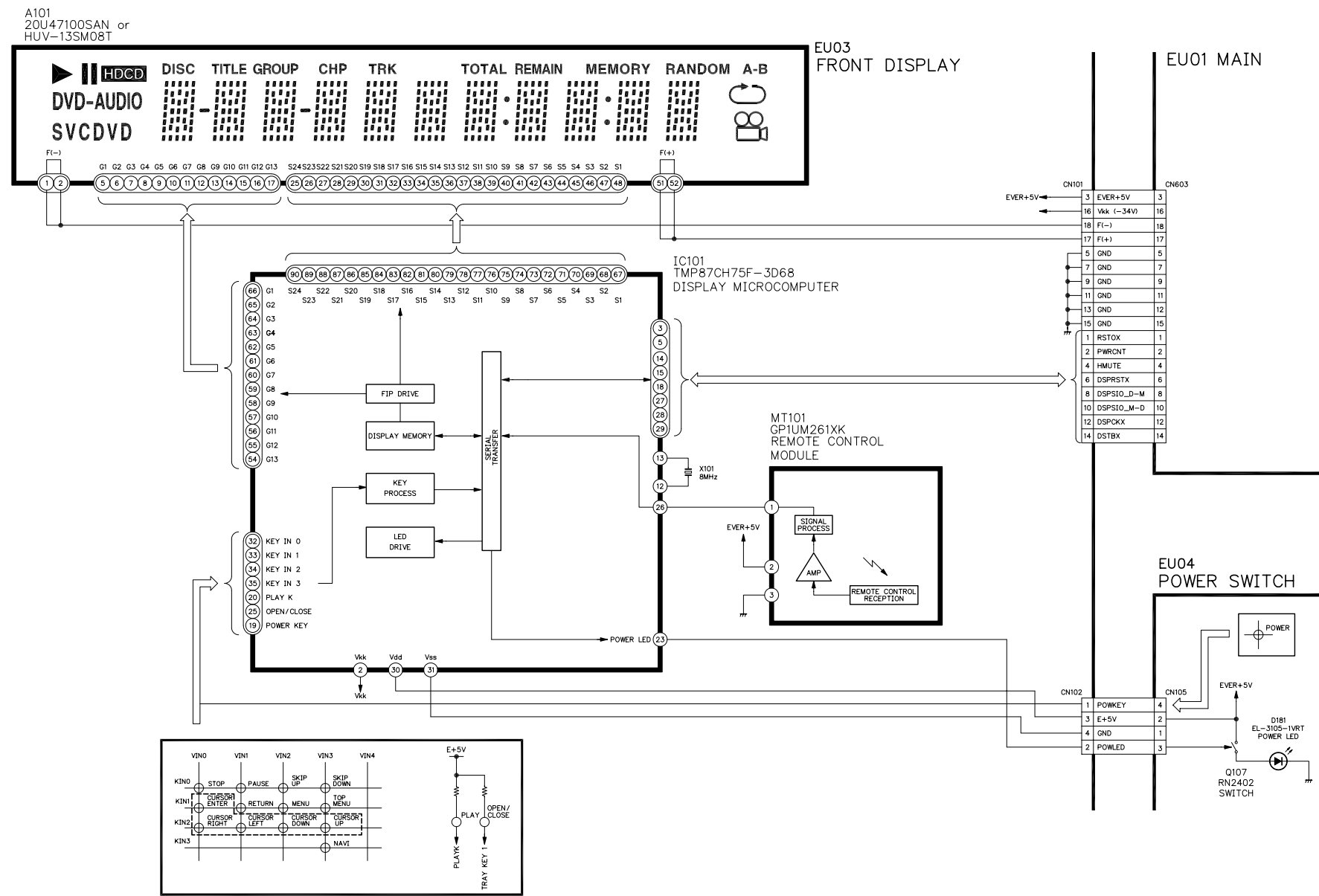


Fig. 3-4-5

4-4. Main Block Diagrams

4-4-1. Servo System Block Diagram

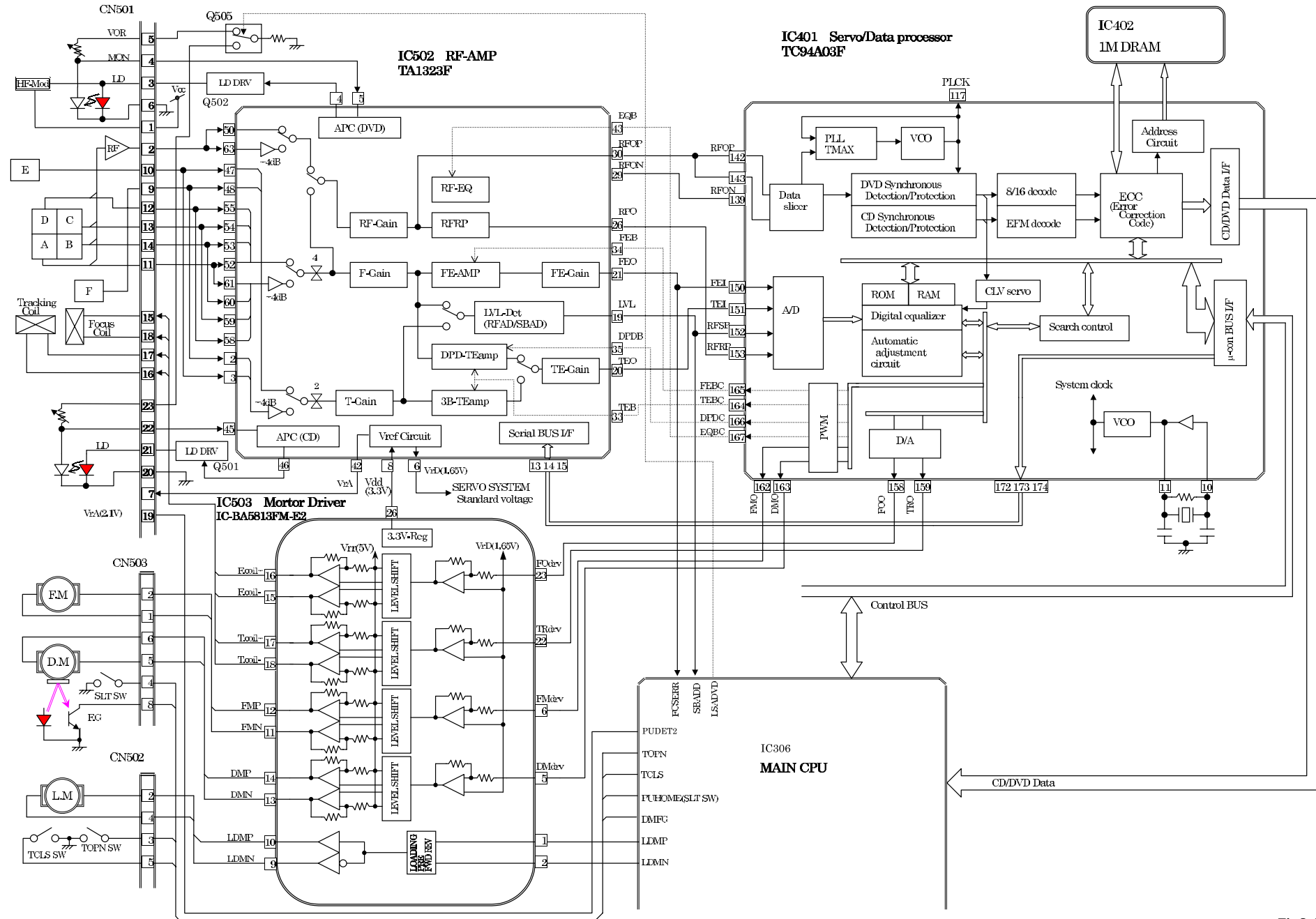


Fig.3-4-6

4-4-2. Logical System Block Diagram

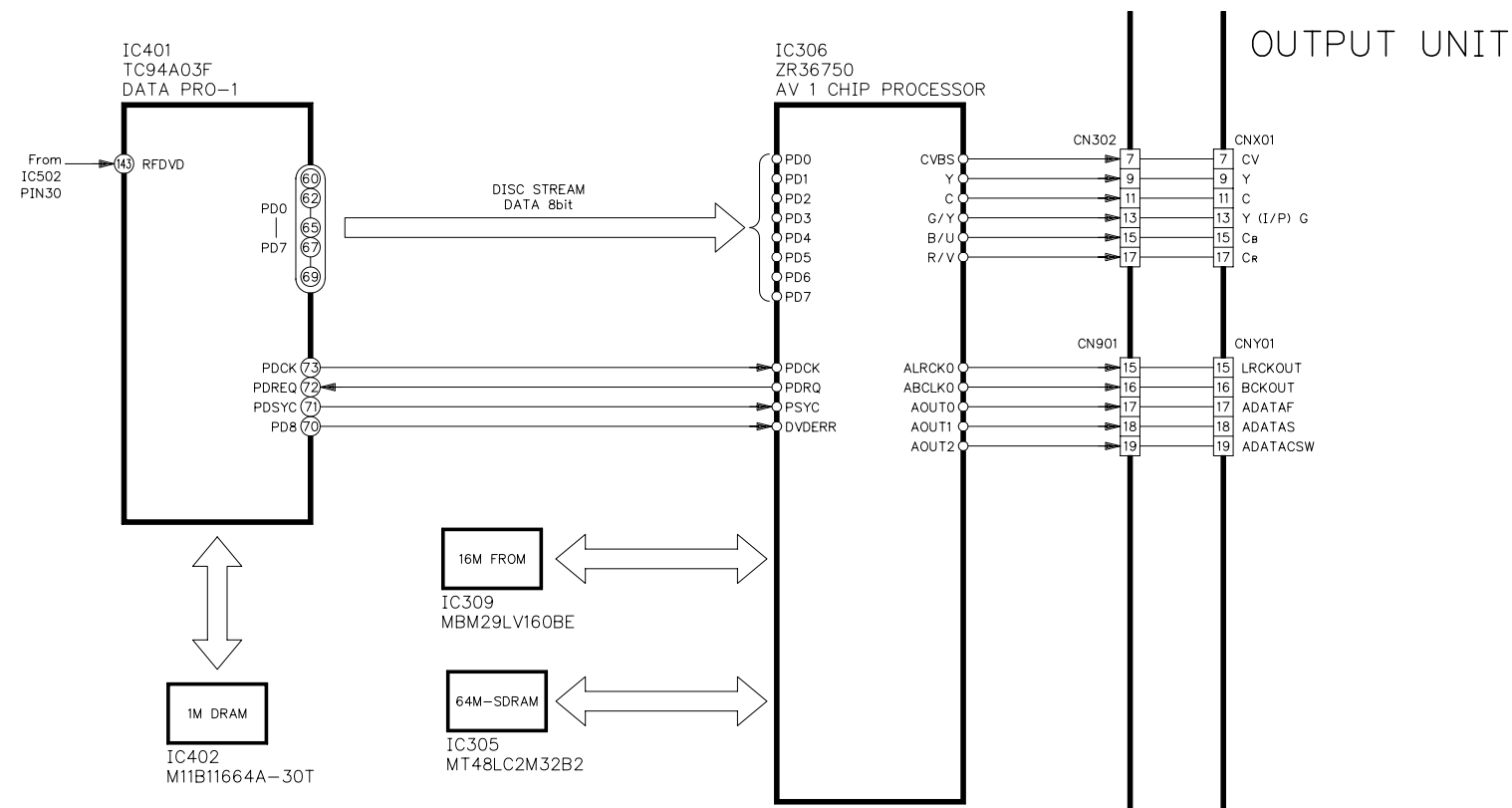


Fig. 3-4-7

4-5. Output Block Diagram

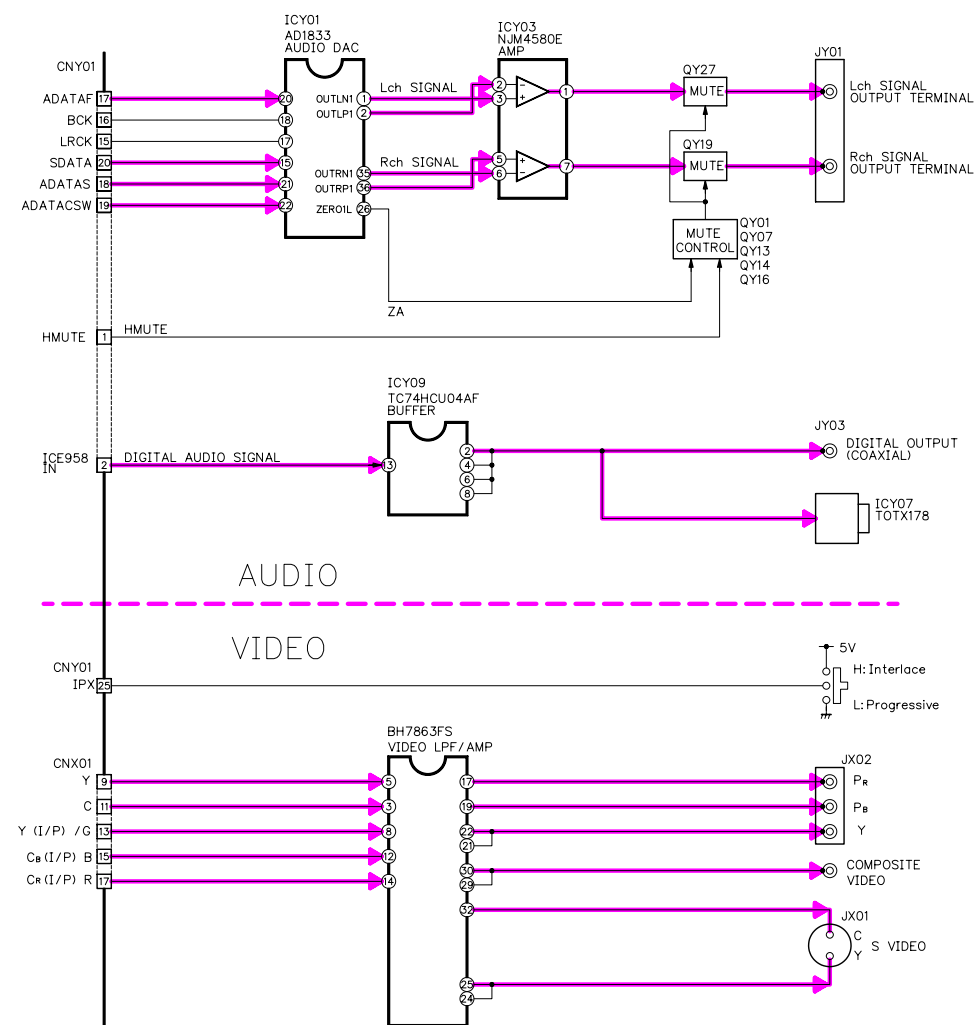


Fig. 3-4-8

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4

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6

7

8

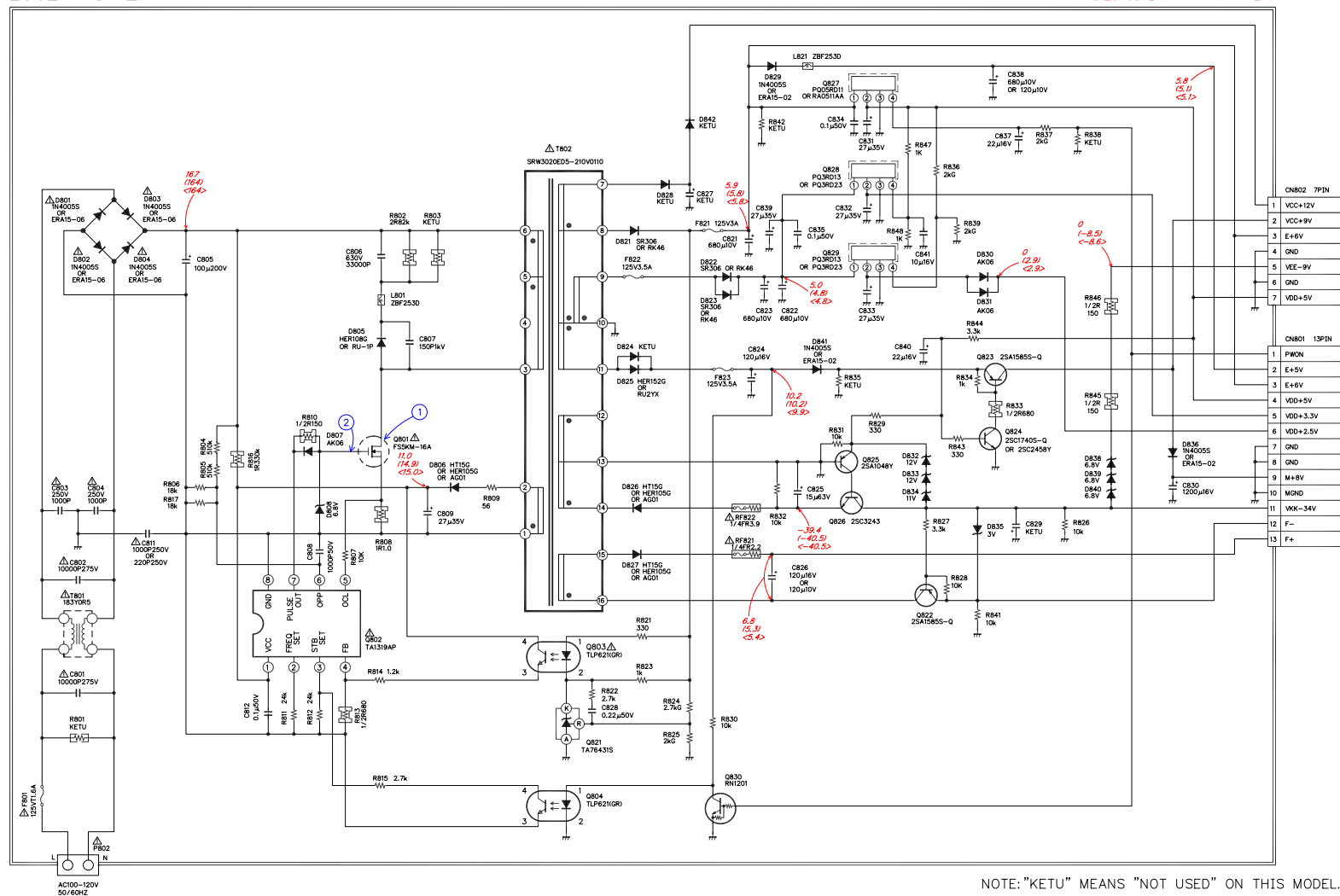
9

10

5. CIRCUIT DIAGRAMS

5-1. Power Supply Circuit Diagram

EU02 POWER



	Q802						Q821			Q822			Q823			Q824			Q825		
	1	2	3	4	6	8	K	R	A	E	C	B	E	C	B	E	C	B	E	C	B
OFF	11.0	1.5	0.5	2.8	1.5	0	3.8	2.5	0	0	-6.8	0	10.0	0	10.0	0	10.0	0	0	-39.0	0
ON	14.9	1.0	1.7	2.0	1.5	0	4.0	2.5	0	-30.3	-30.4	-31.1	9.5	9.4	8.8	0	0.1	0.7	0.7	-40.0	0
PLAY	15.0	1.0	1.7	2.0	1.5	0	4.0	2.5	0	-30.2	-30.3	-31.0	9.1	9.0	8.4	0	0.1	0.7	0.7	-40.0	0

	Q826			Q827				Q828				Q829				Q830		
	E	C	B	1	2	3	4	1	2	3	4	1	2	3	4	E	C	B
OFF	-39.4	0	-39.0	5.9	5.0	0	0	5.0	3.3	0	0	5.0	3.3	0	0	0	1.0	0
ON	-40.5	-34.0	-40.0	5.8	5.0	0	5.0	4.8	3.3	0	2.5	4.8	3.3	0	2.5	0	0.1	5.0
PLAY	-40.5	-34.0	-40.0	5.8	5.0	0	5.0	4.8	3.3	0	2.5	4.8	3.3	0	2.5	0	0.1	5.0

Fig. 3-5-1

Power Supply Circuit Diagram

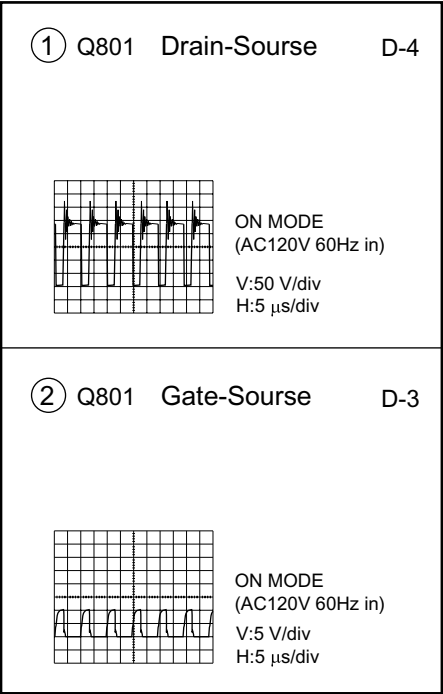


Fig. 3-5-2

1

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3

4

5

6

7

8

9

10

5-2. Front Display, Power Switch Circuit Diagram

EU03 FRONT

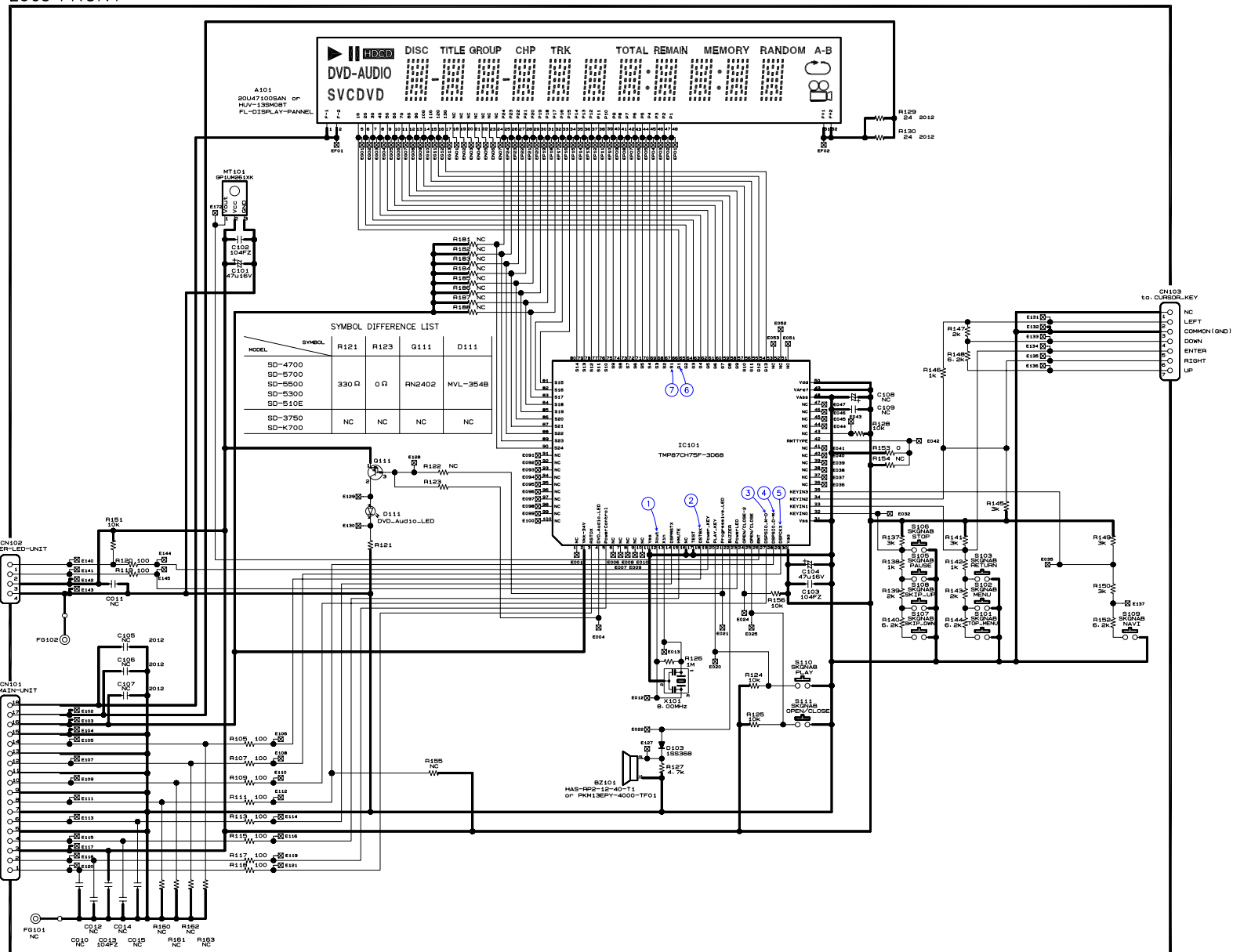


Fig. 3-5-3

Front Display, Power Switch Circuit Diagram

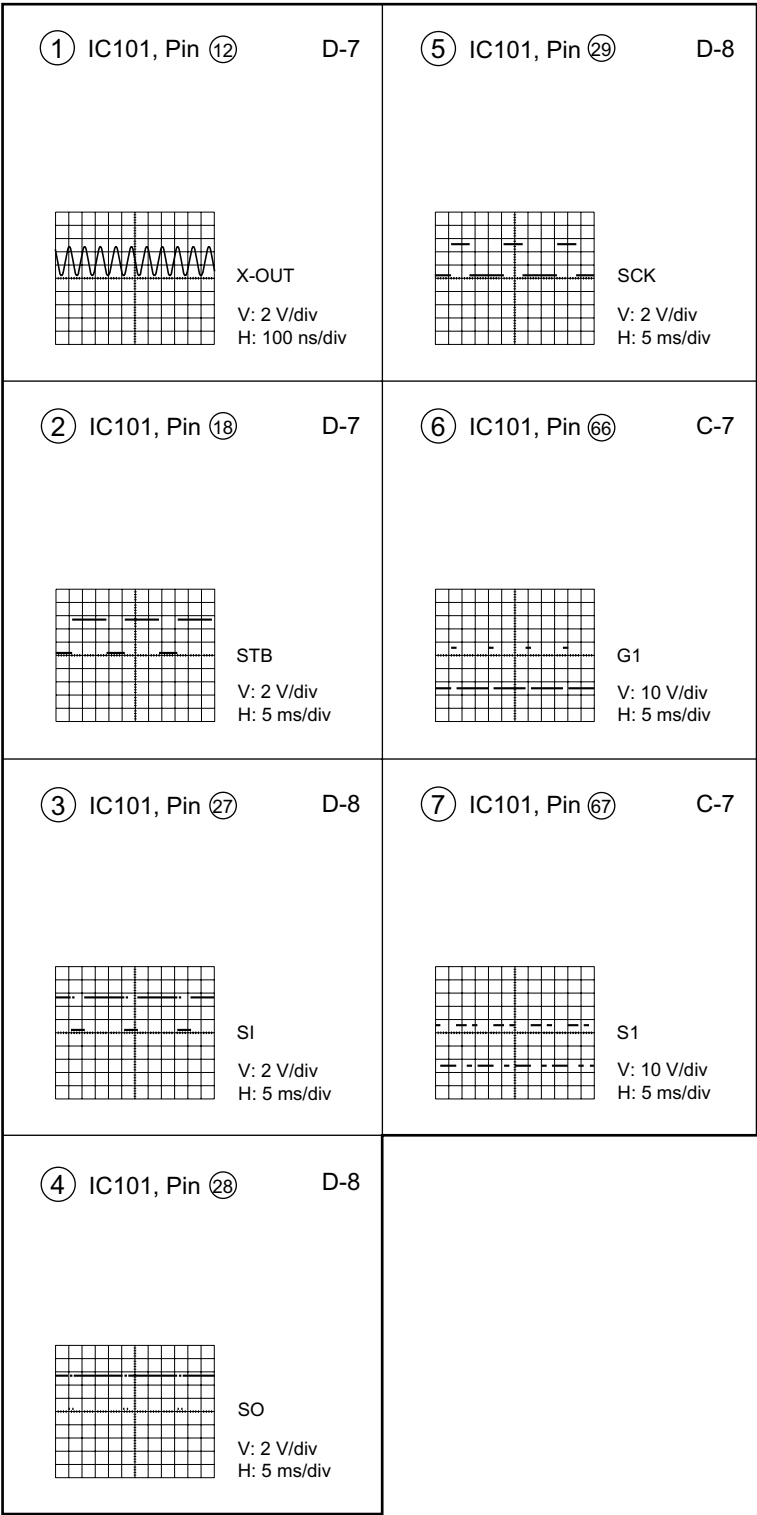
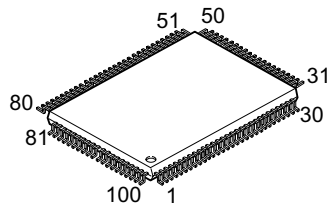


Fig. 3-5-4

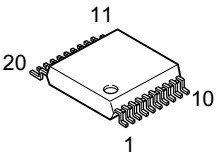
5-3. Main Circuit Diagrams

5-3-1. New Main ICs Information

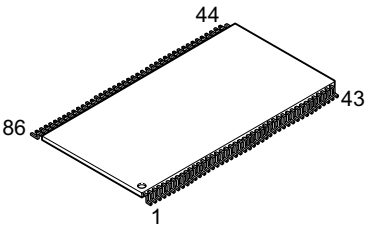
TMP87CH75F



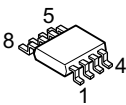
TC74VHCT



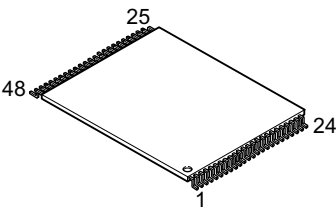
W986432DH



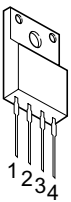
S24C02AFJA



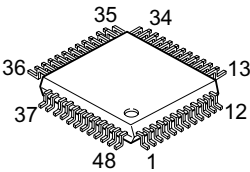
MBM29LV160



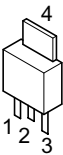
PQ3RD23
PQ05RD11



AD1833AST8



MPC2948T



BH7863

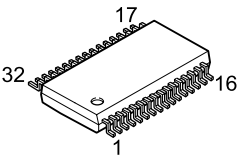
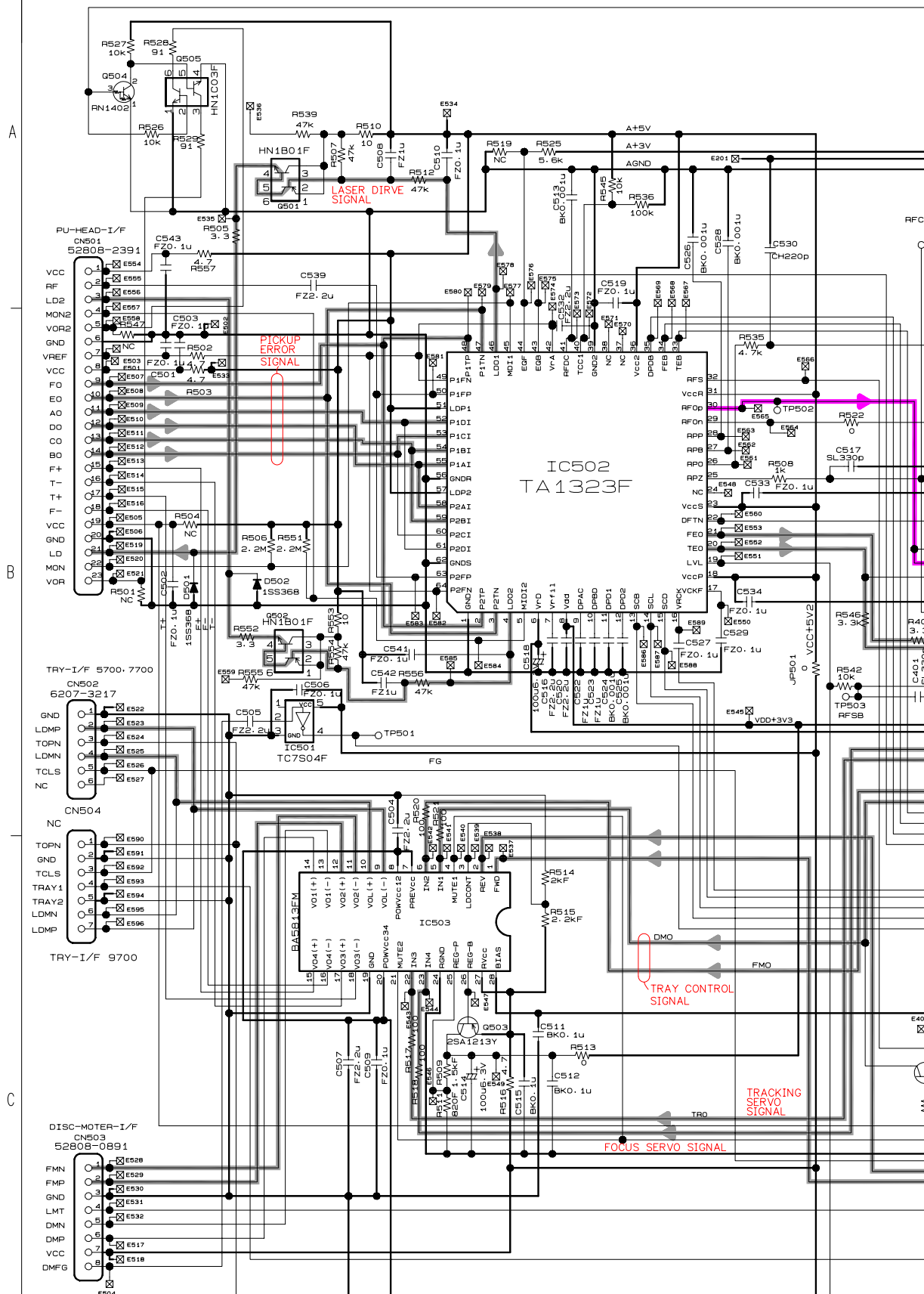
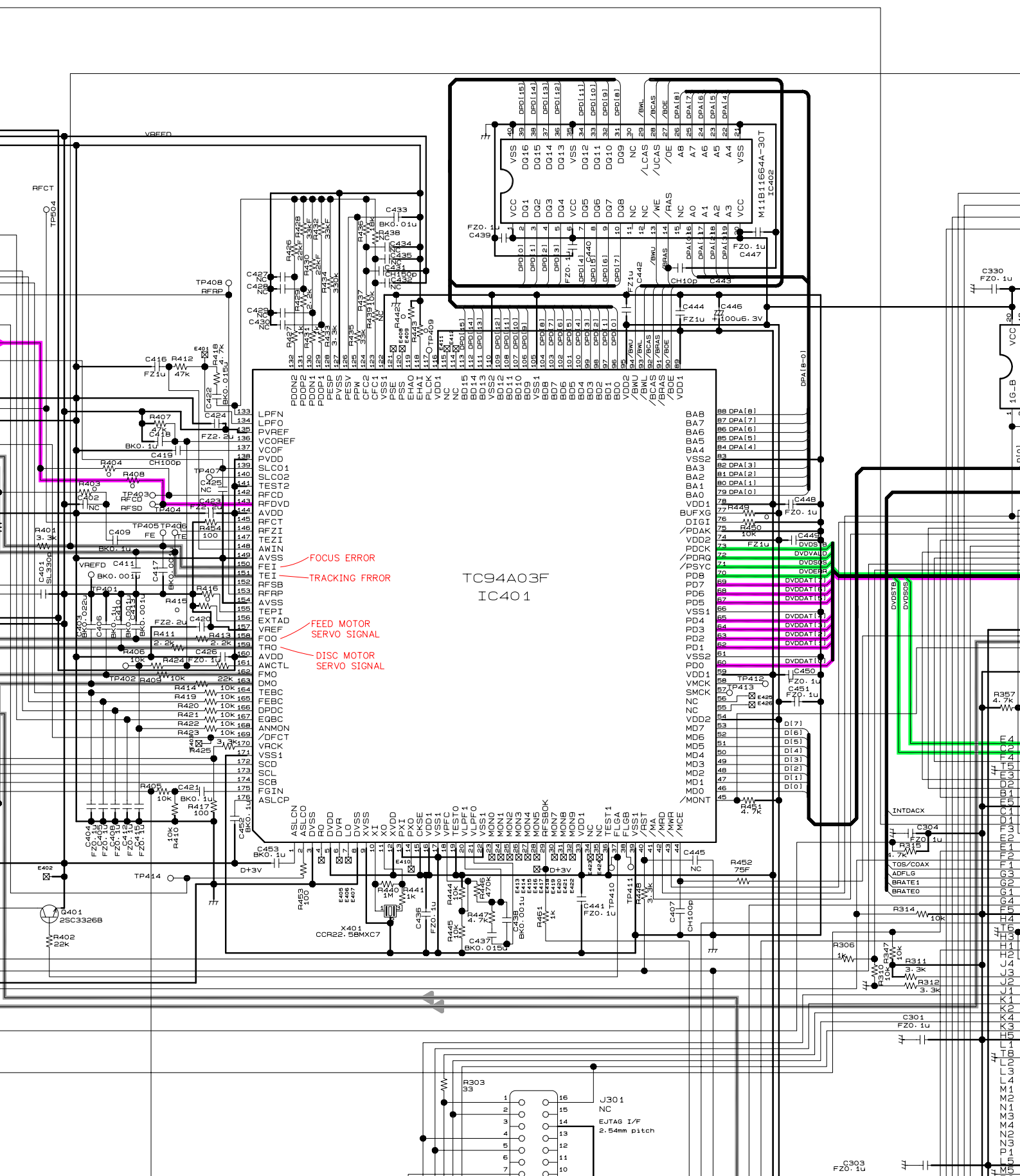
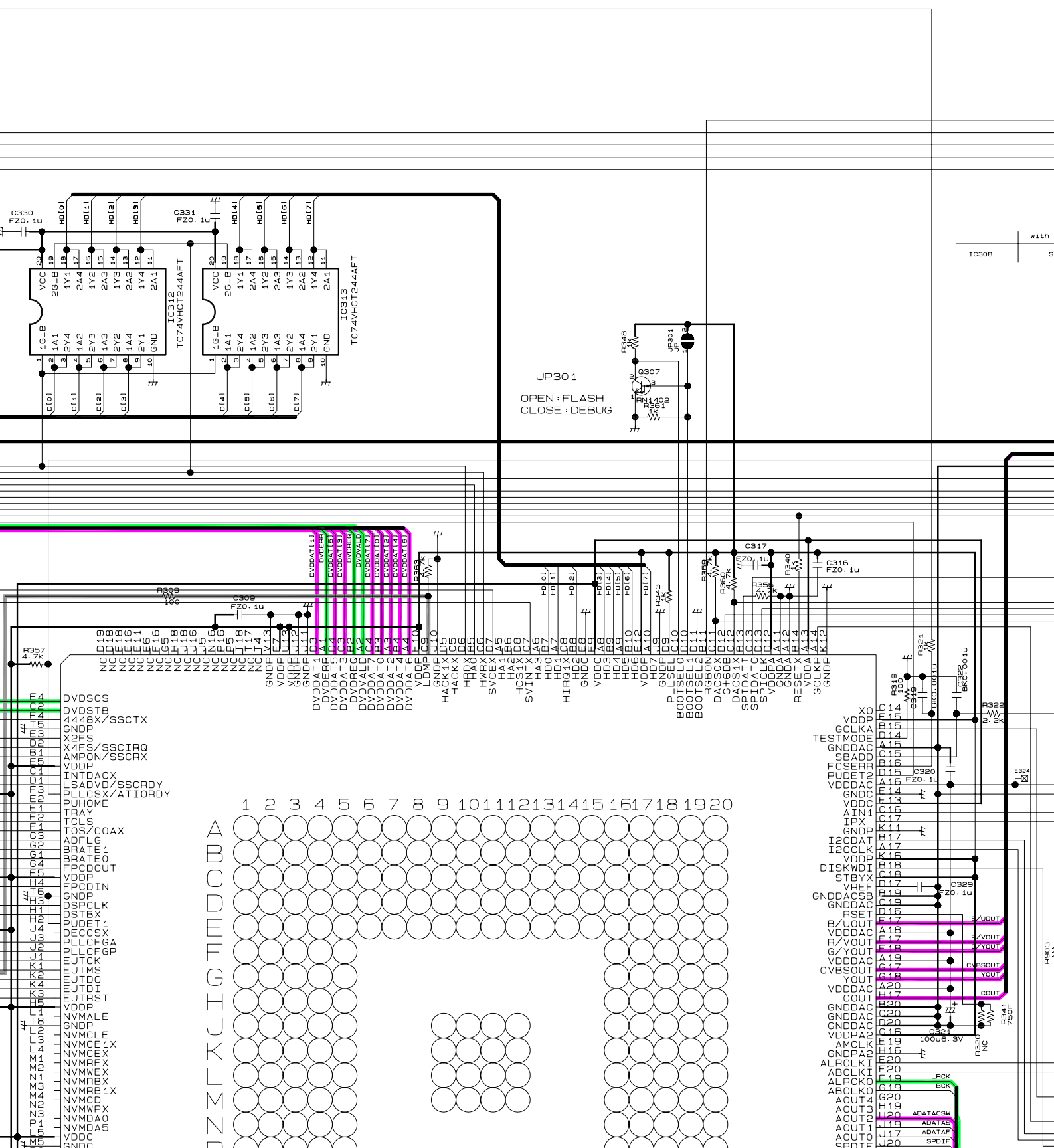
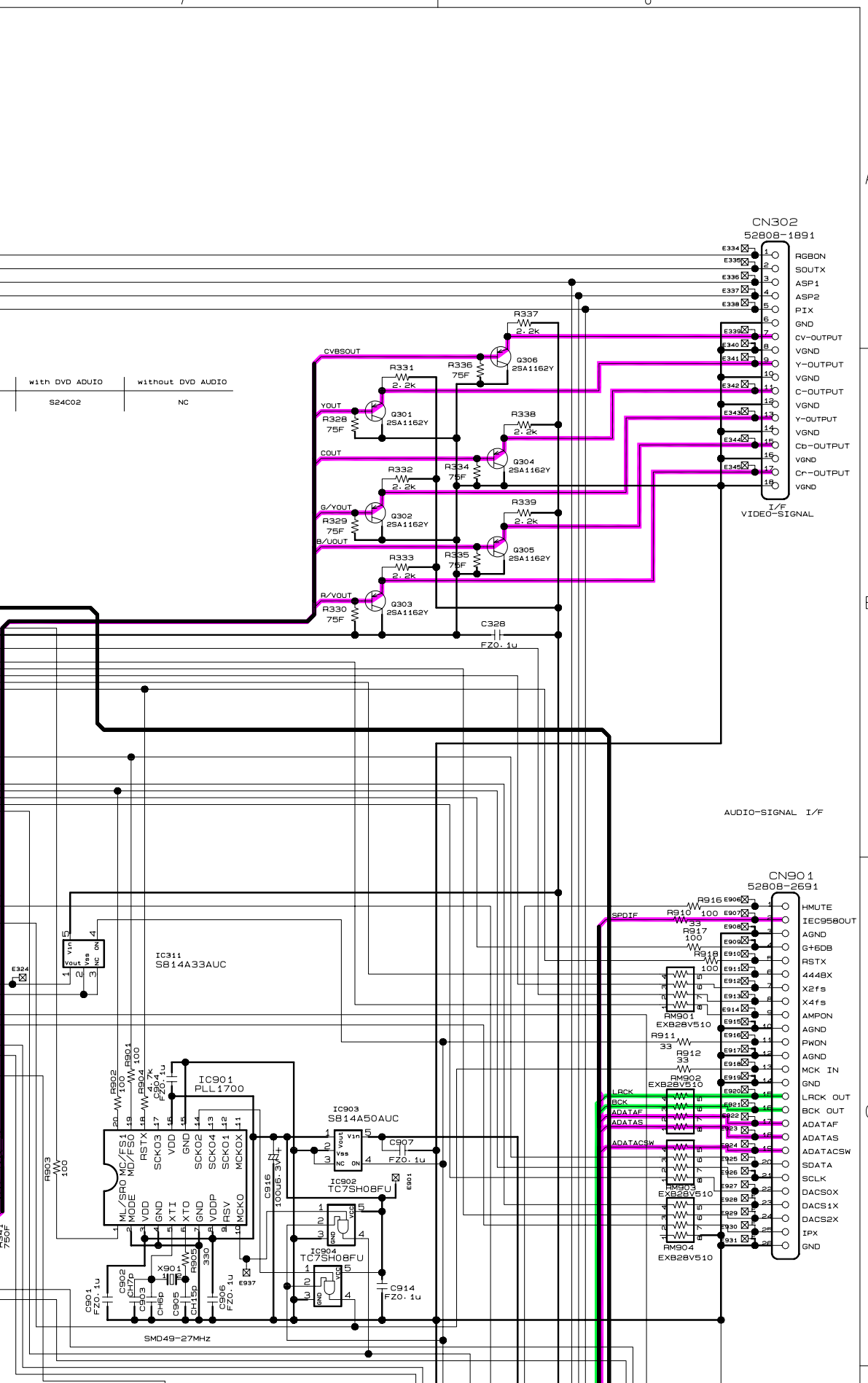


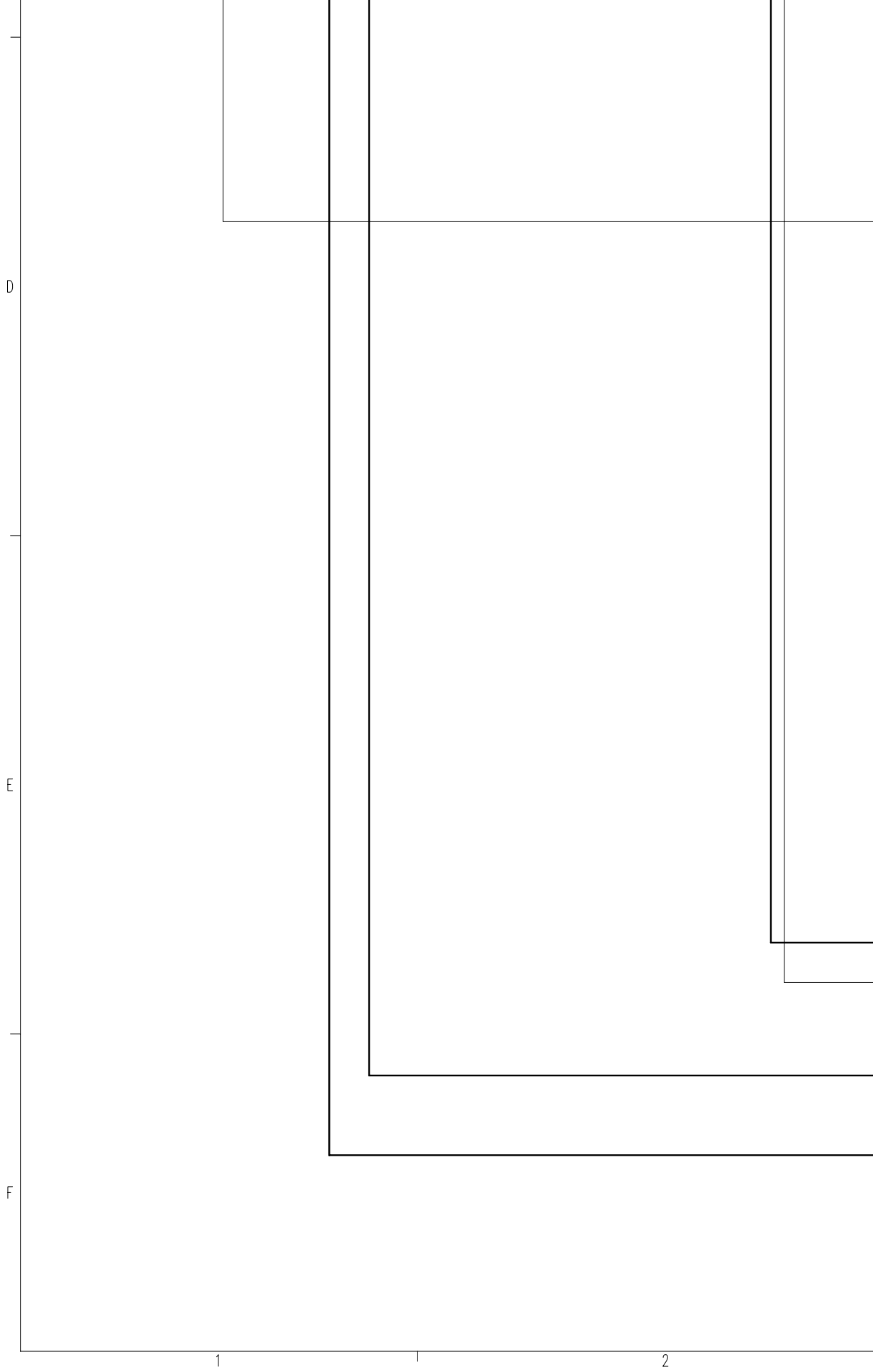
Fig. 3-5-5

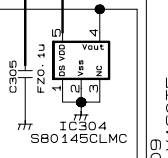
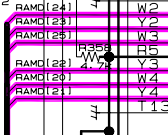
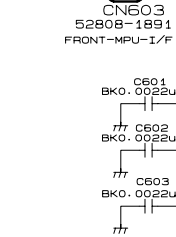
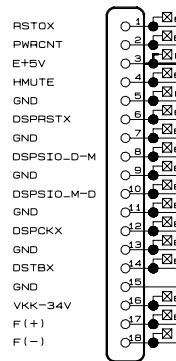
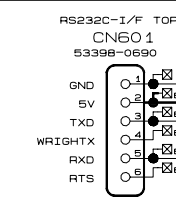
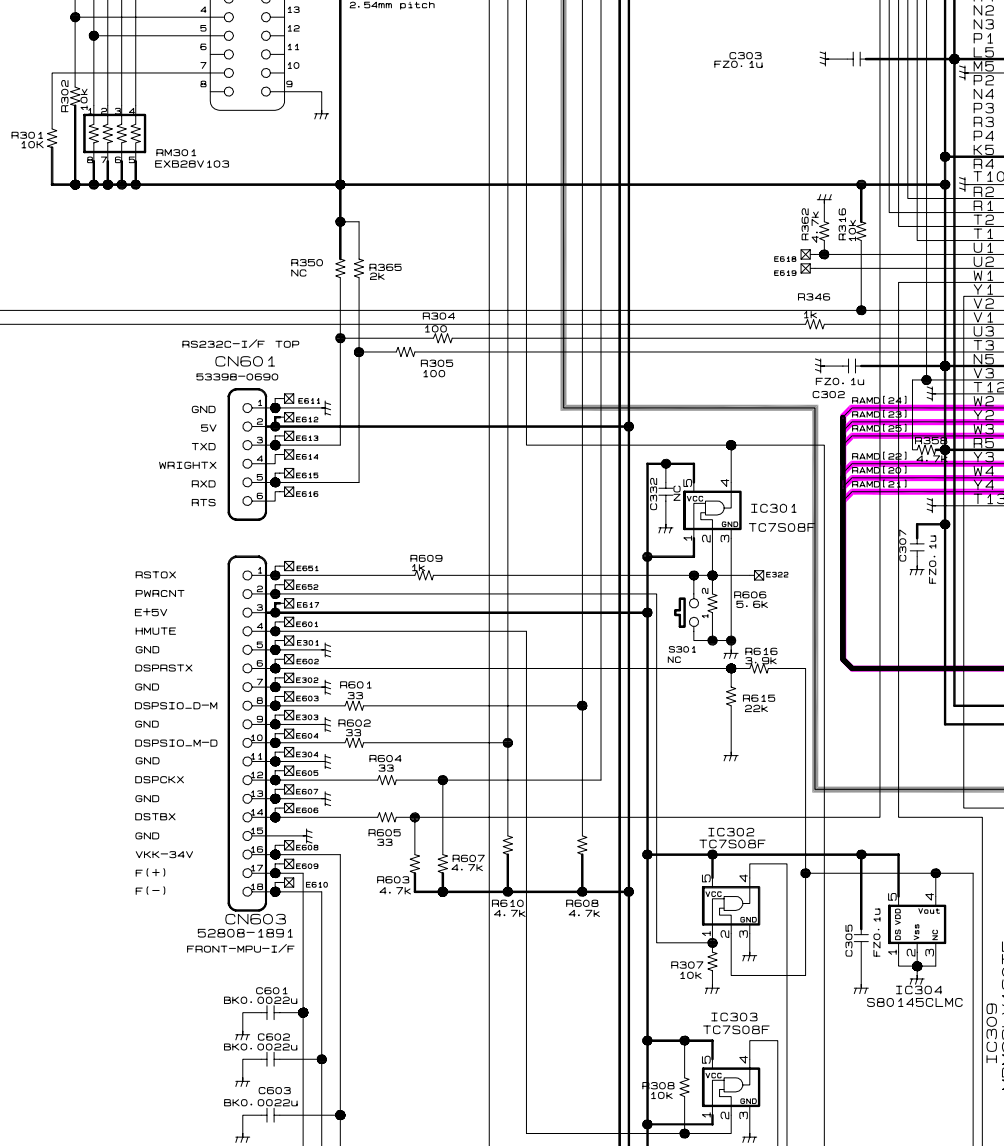












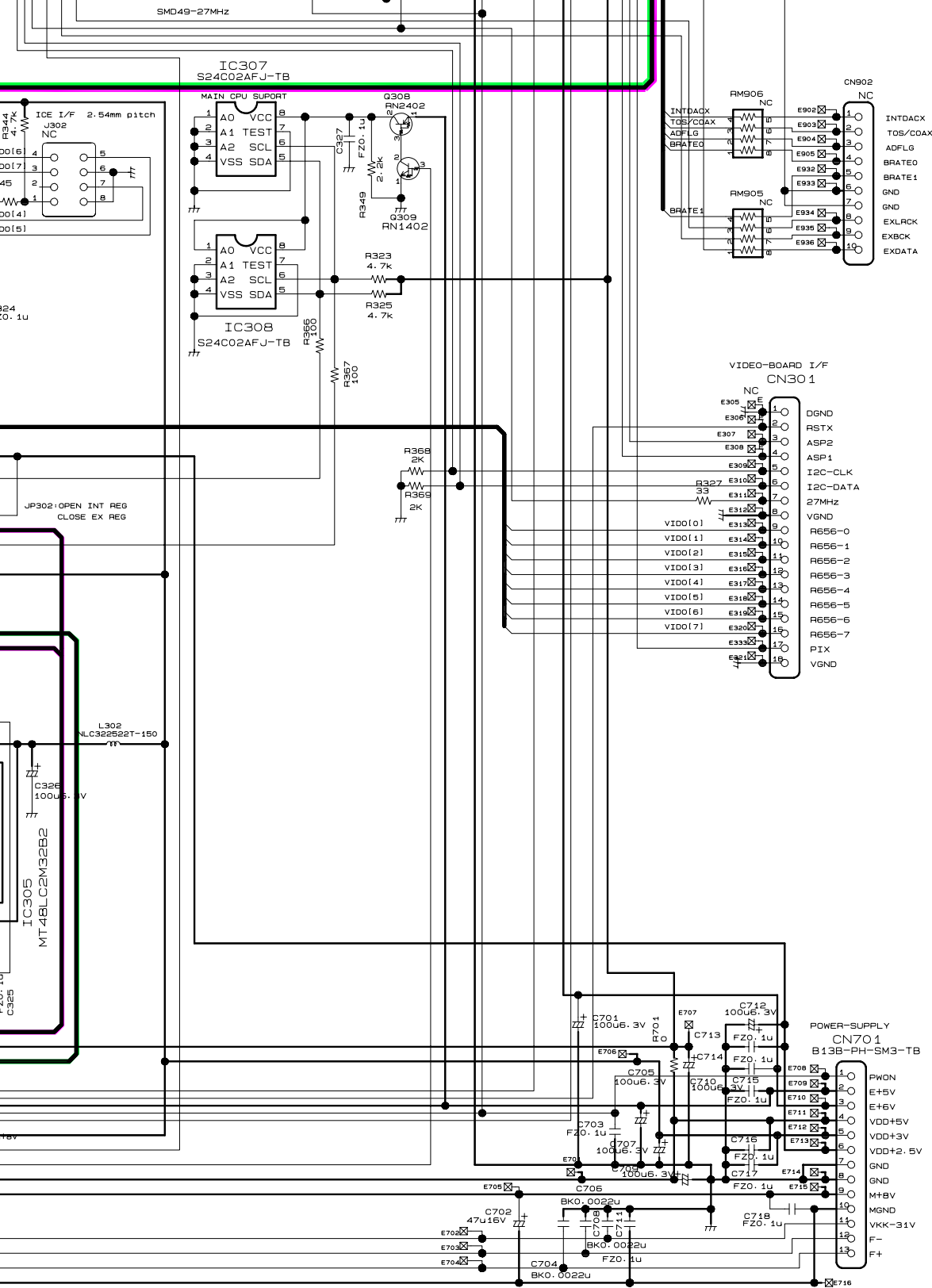
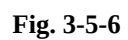


Fig. 3-5-5

Note that the output circuit has two types.



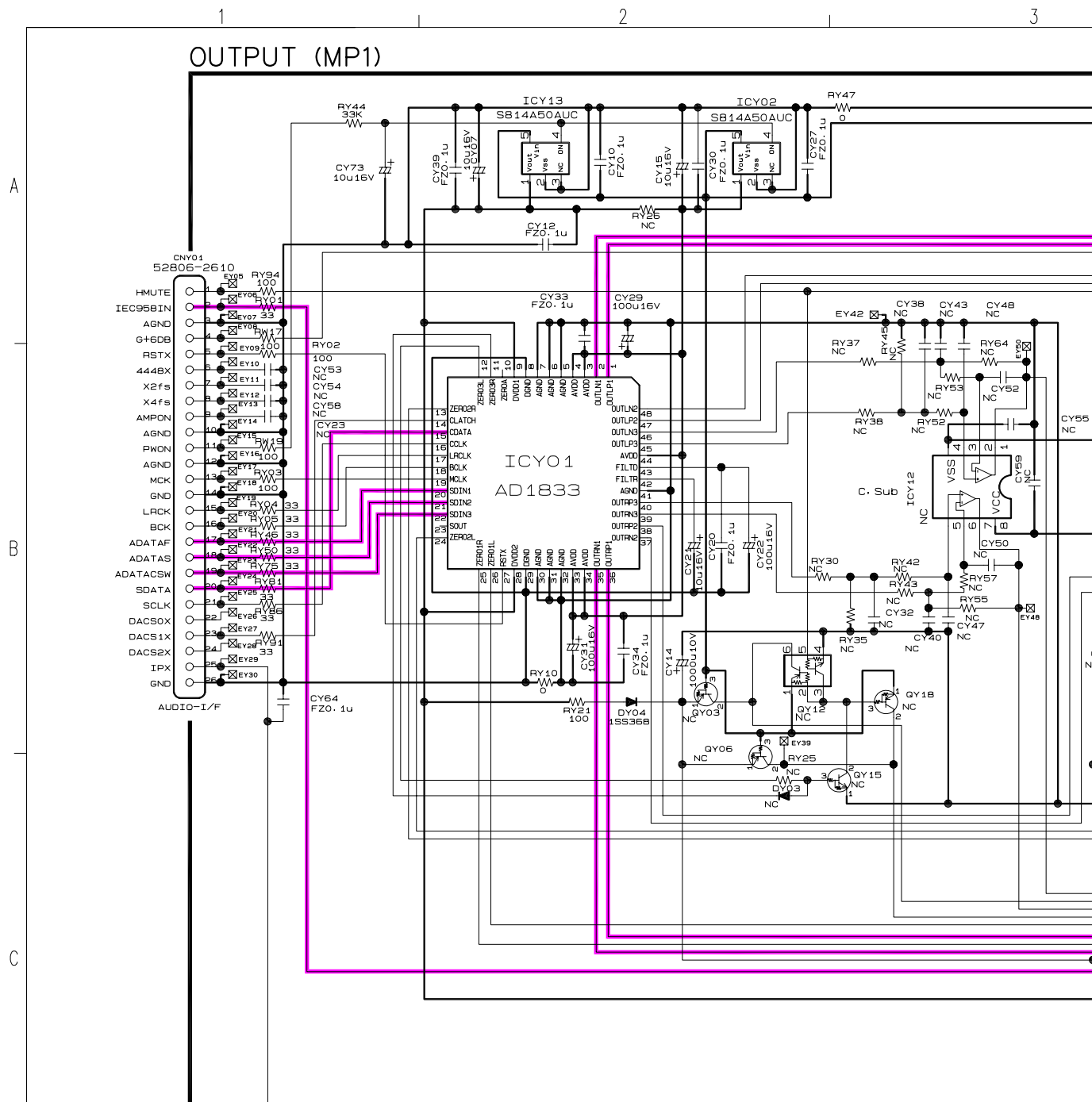
[illegible]

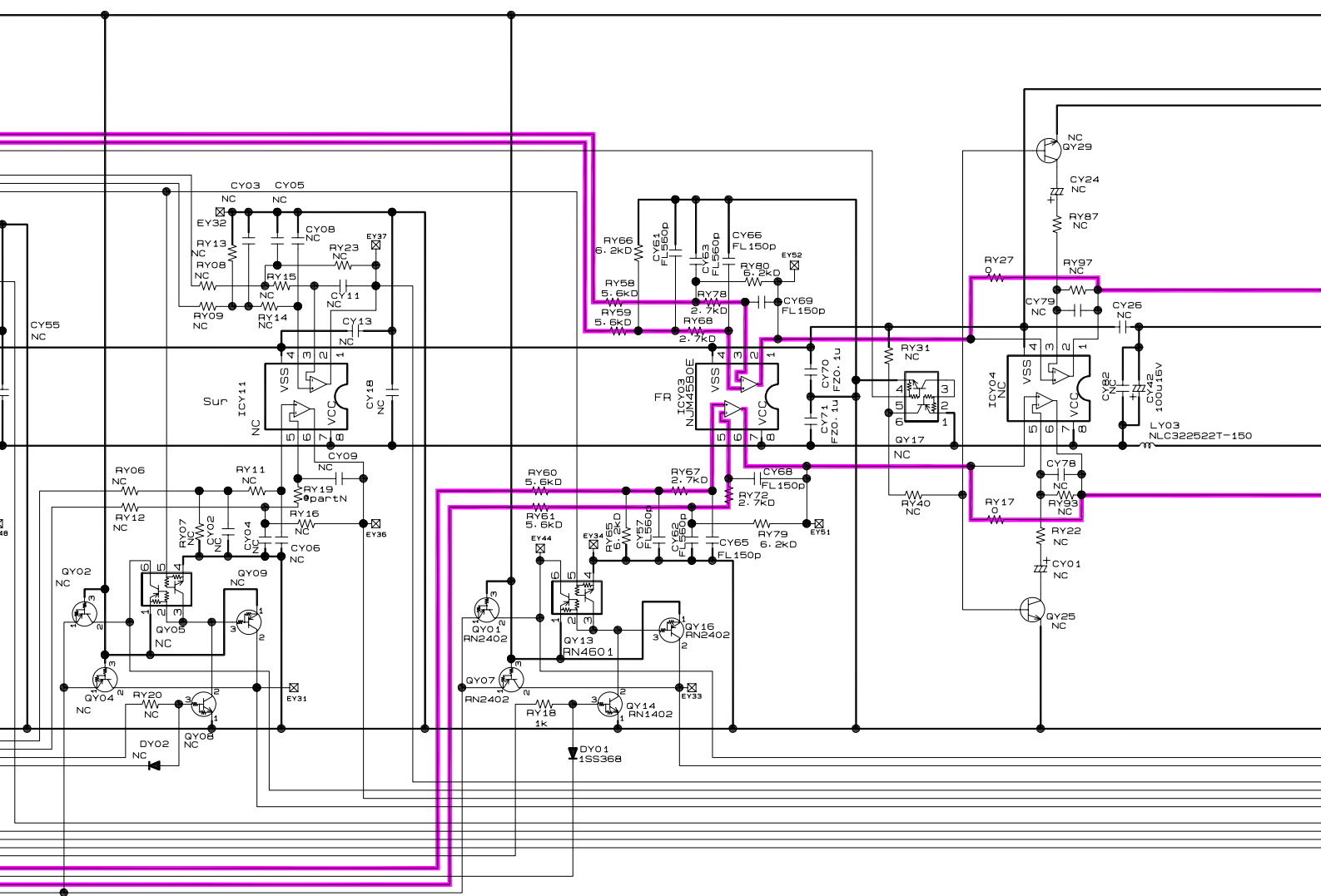
Fig. 3-5-7

5-4. Output Circuit Diagram

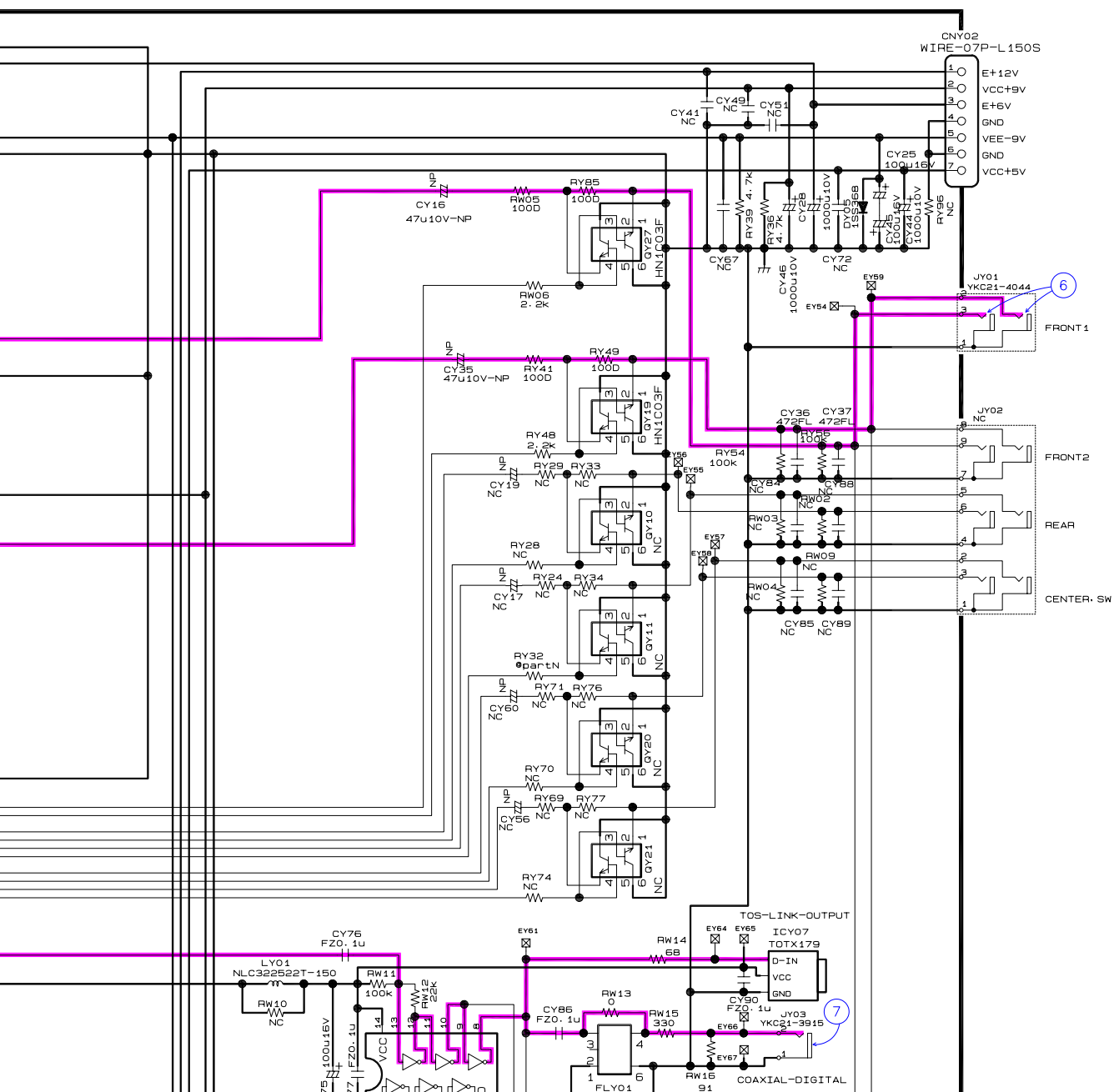
Note that the output circuit has two types.

5-4-1. Output Circuit Diagram (No. 9823128700)





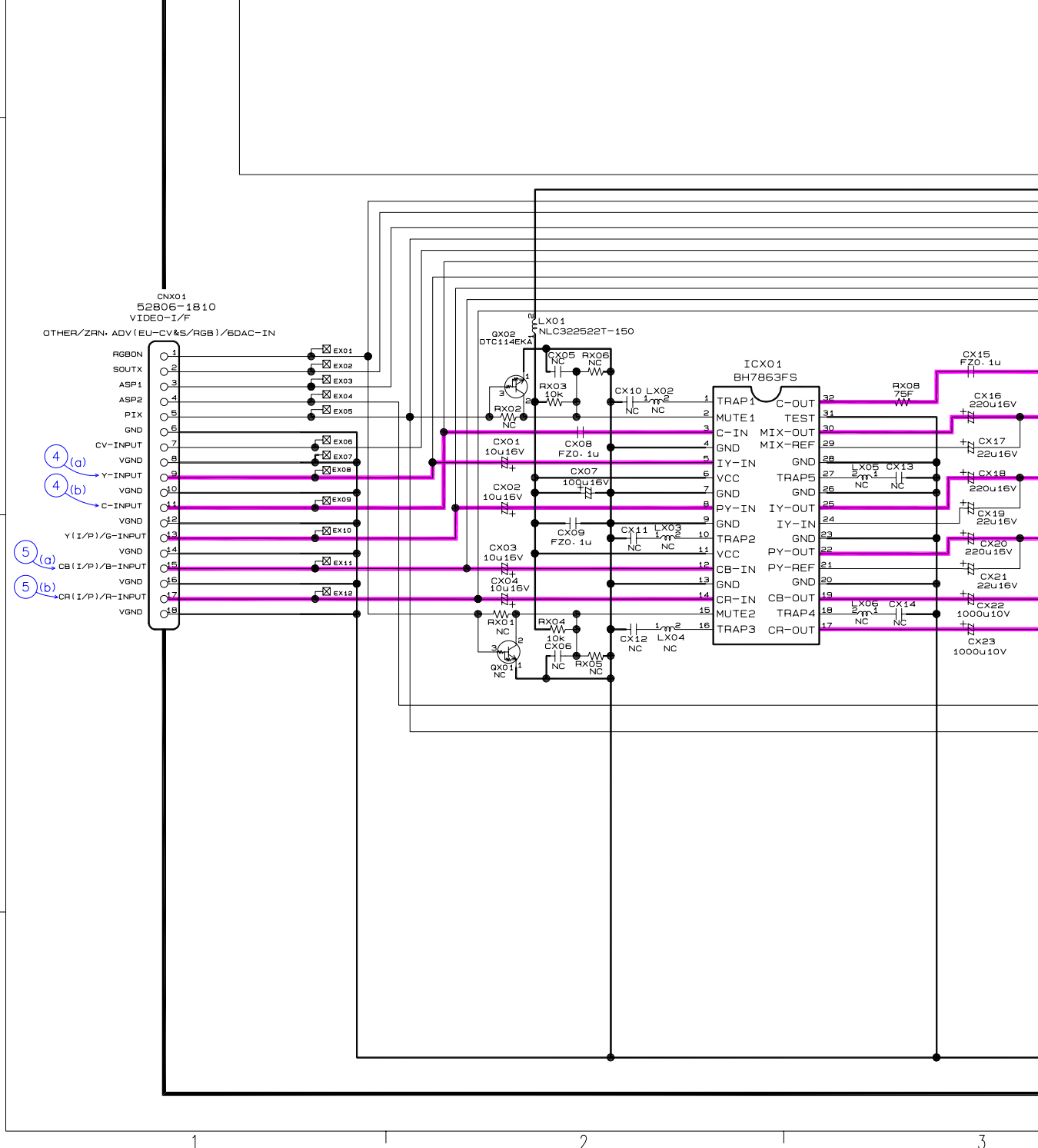
	SD-3750/SD-K700/SD-3500
JX01	YKC22-0535
JX02	YKC21-8038



D

E

F



1

1

2

1

3

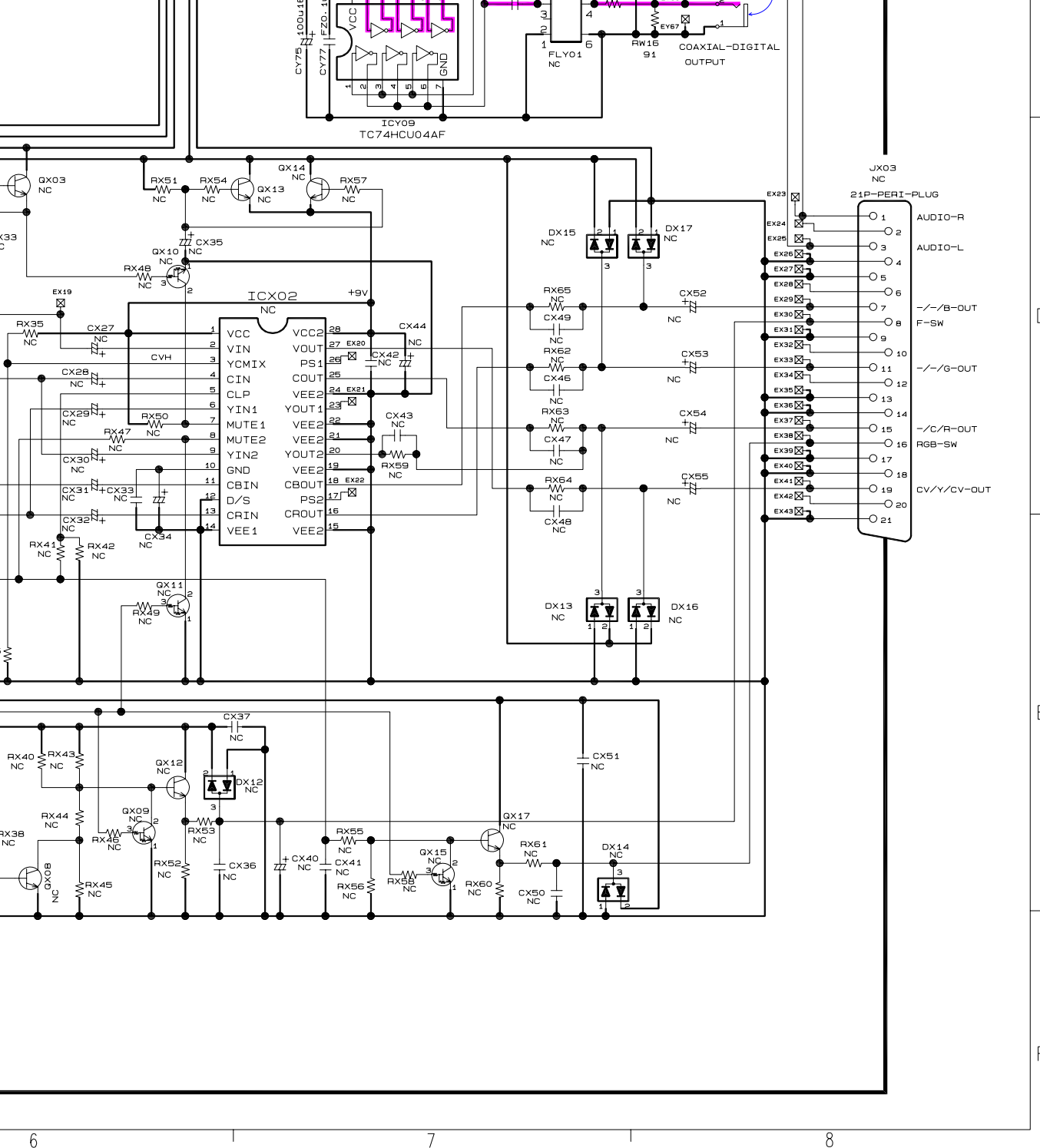
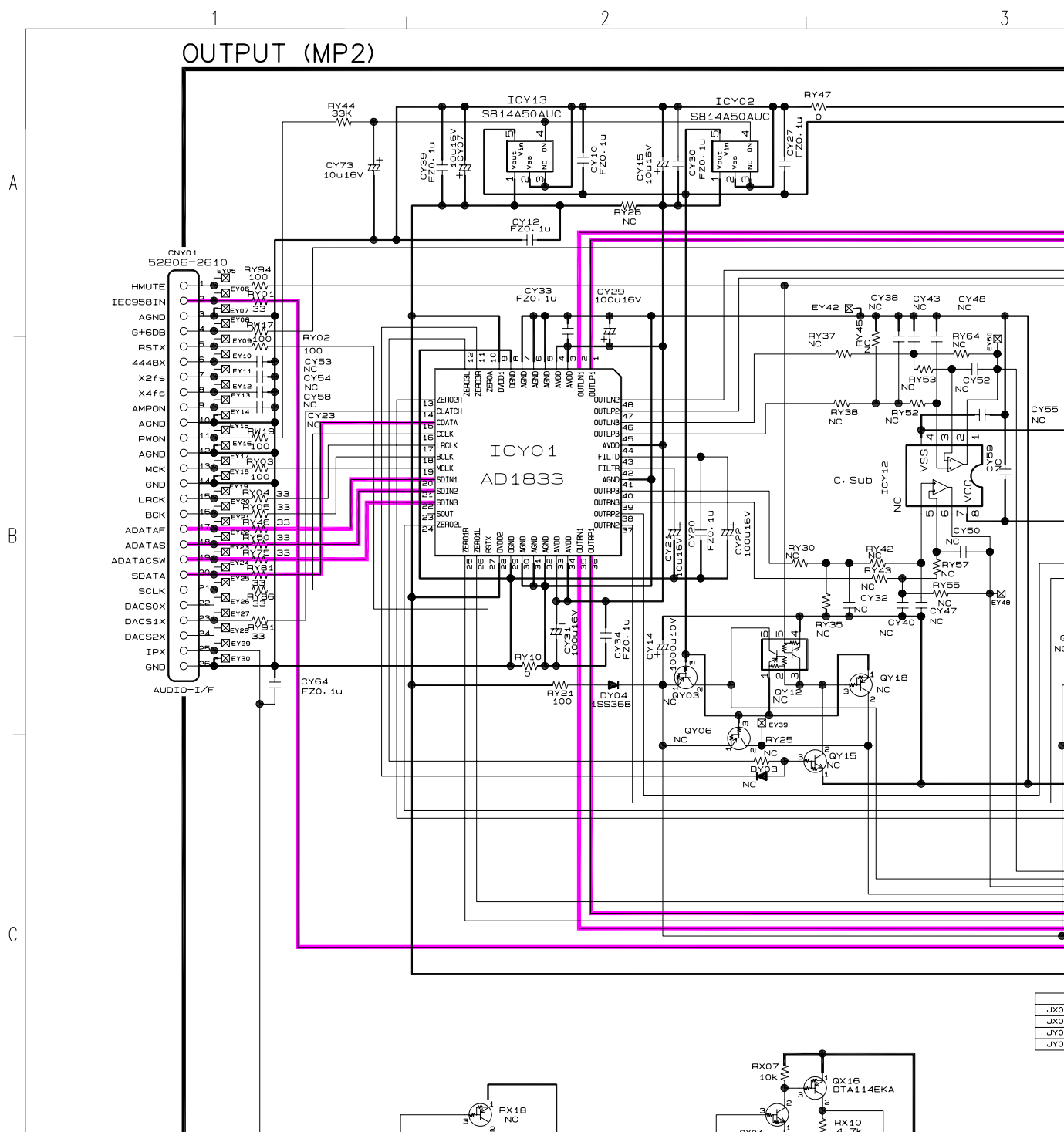
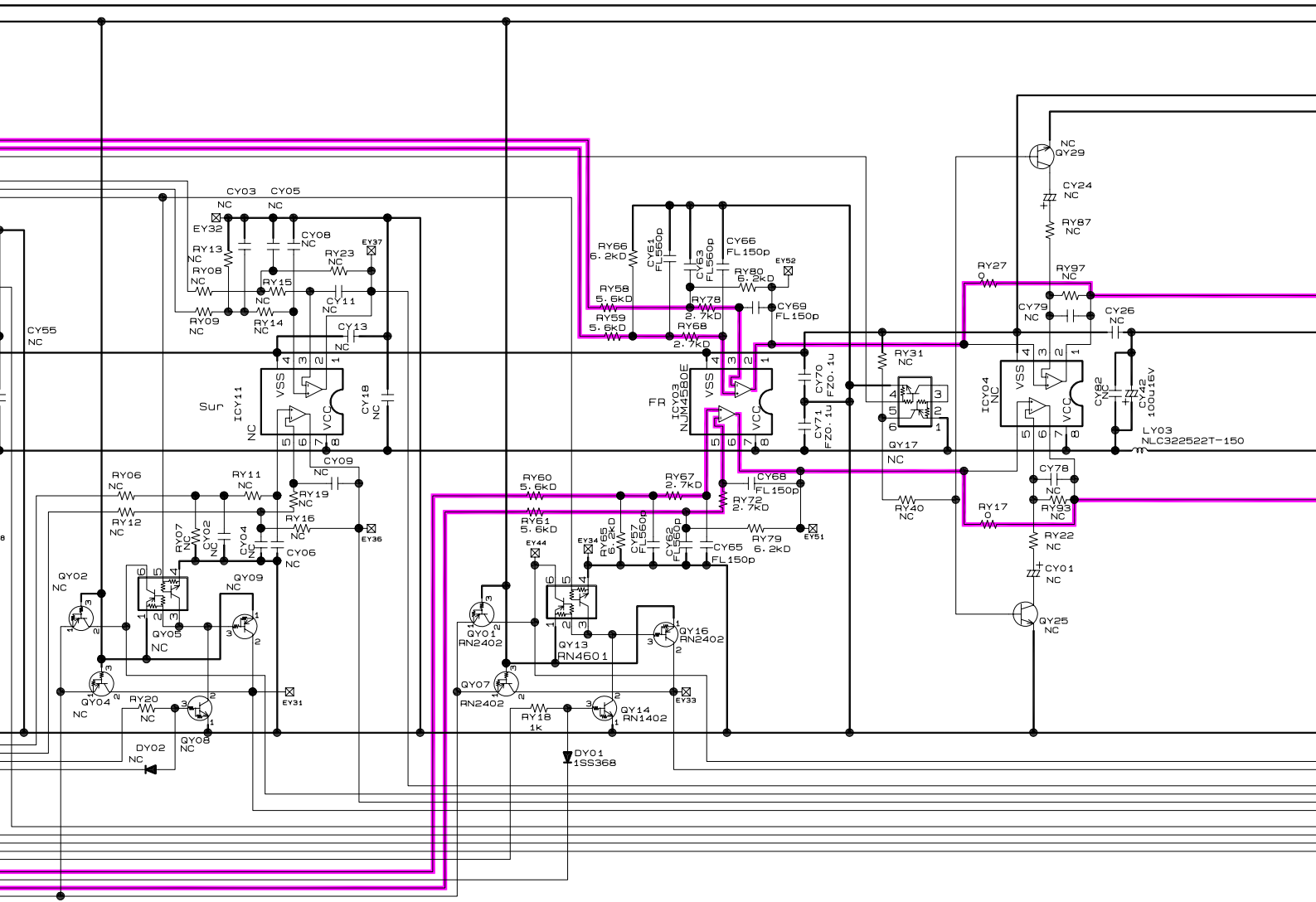


Fig. 3-5-6

5-4-2. Output Circuit Diagram (No. 9823128701)



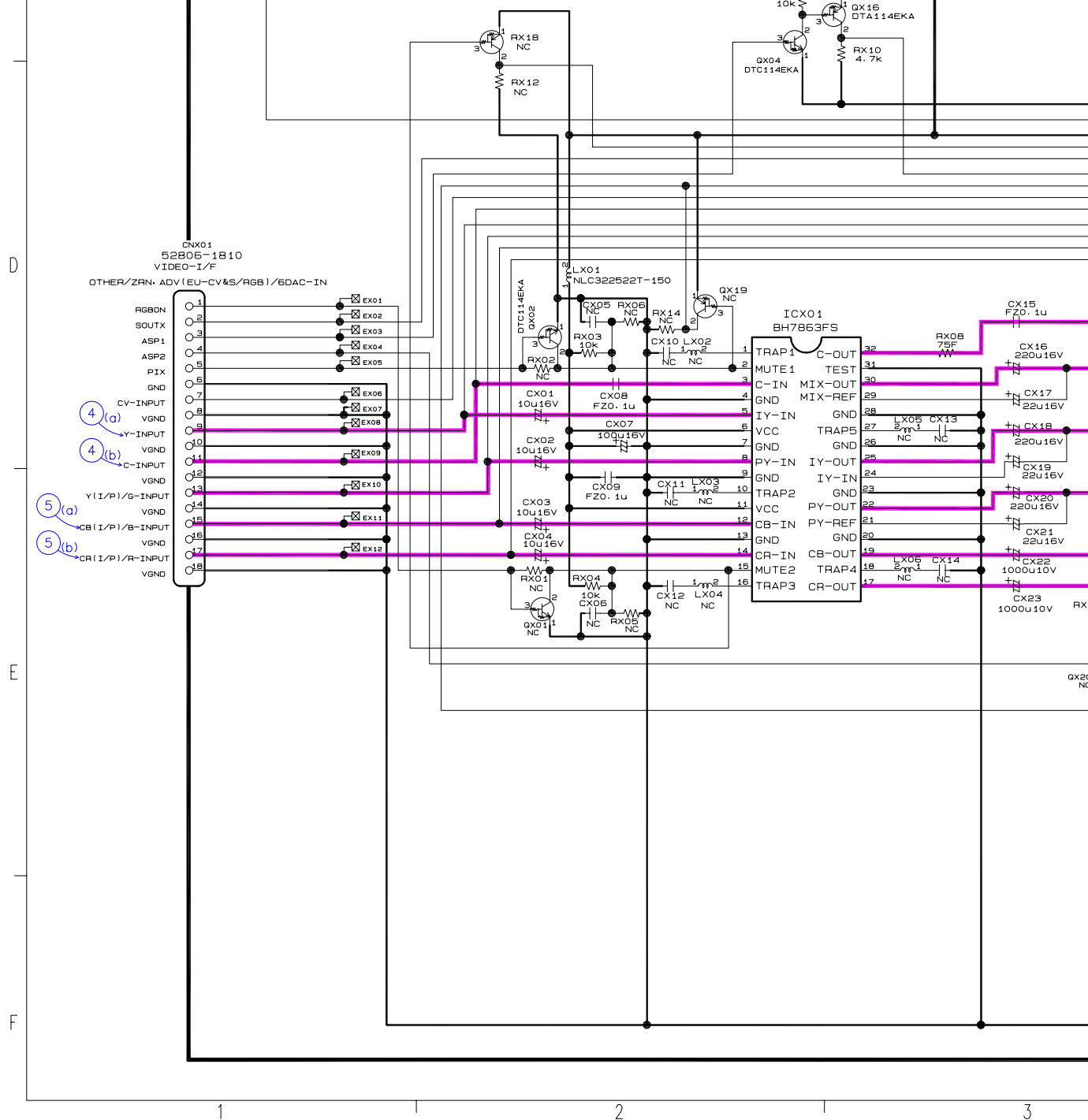


	SD-3750/SD-K700/SD-3500
JX01	YKC22-0535
JX02	YKC21-8038
JY01	YKC21-4042
JY03	YKC21-3895

	SD-3750/SD-K700	SD-3500
CN02	NC	52806-0810
DX06	NC	1SS226
DX07	NC	1SS226
DX08	NC	1SS226
DX09	NC	1SS226
DX10	NC	1SS226
DX11	NC	1SS226
RX19	NC	10k
RX20	NC	10k
RX29	NC	15k

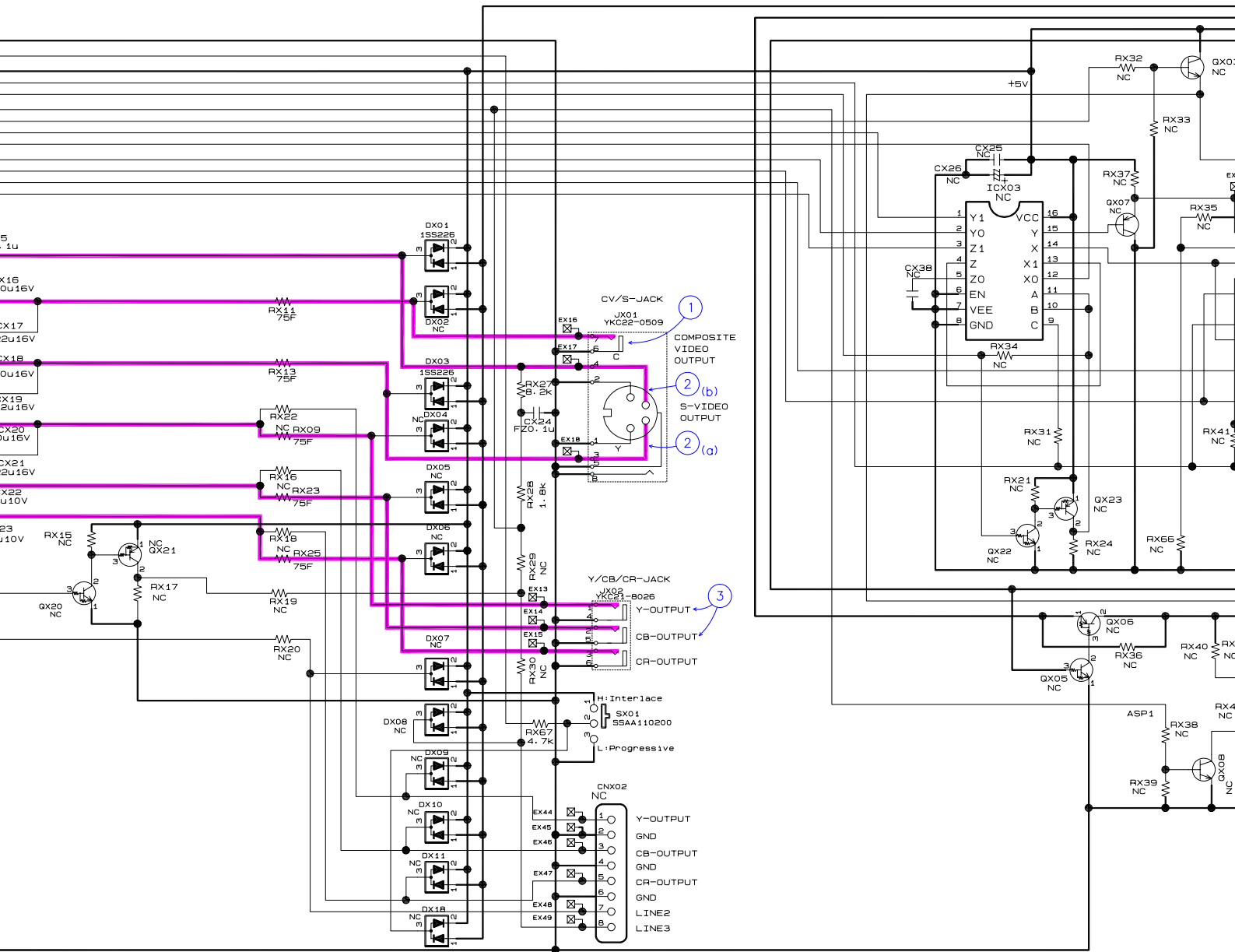
	SD-3750/SD-K700	SD-3500
RX30	NC	3.3k
RX16	NC	75F
RX18	NC	75F
RX22	NC	75F
QX19	NC	DTA114EKA
QX20	NC	DTC114EKA
QX21	NC	DTA114EKA
RX14	NC	4.7k
RX15	NC	10k
RX17	NC	2.2k





DX11	NC	1SS226
RX19	NC	10k
RX20	NC	10k
RX29	NC	15k

QX21	NC	DTA114EKA
RX14	NC	4.7k
RX15	NC	10k
RX17	NC	2.2k



4

5

6

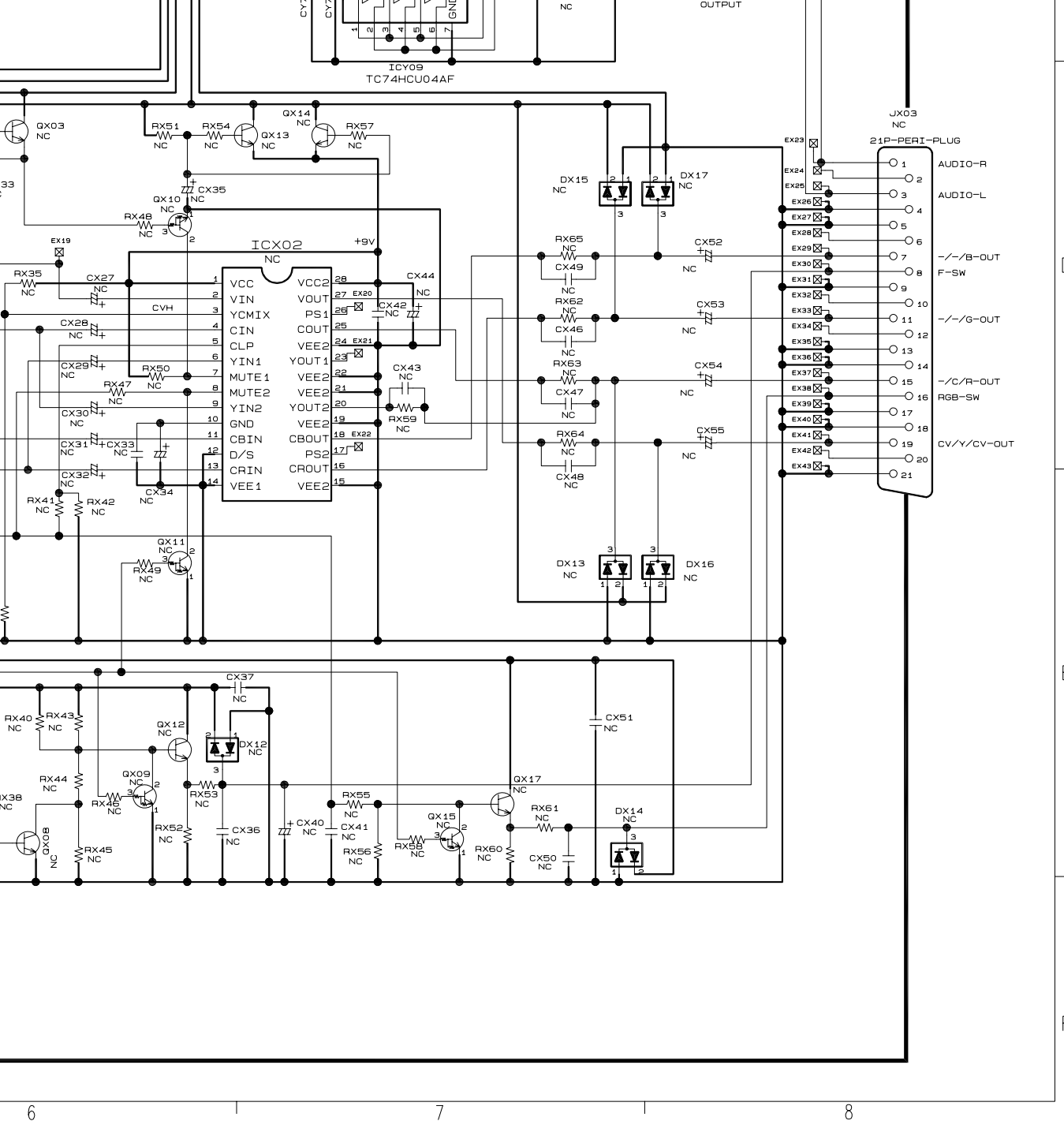
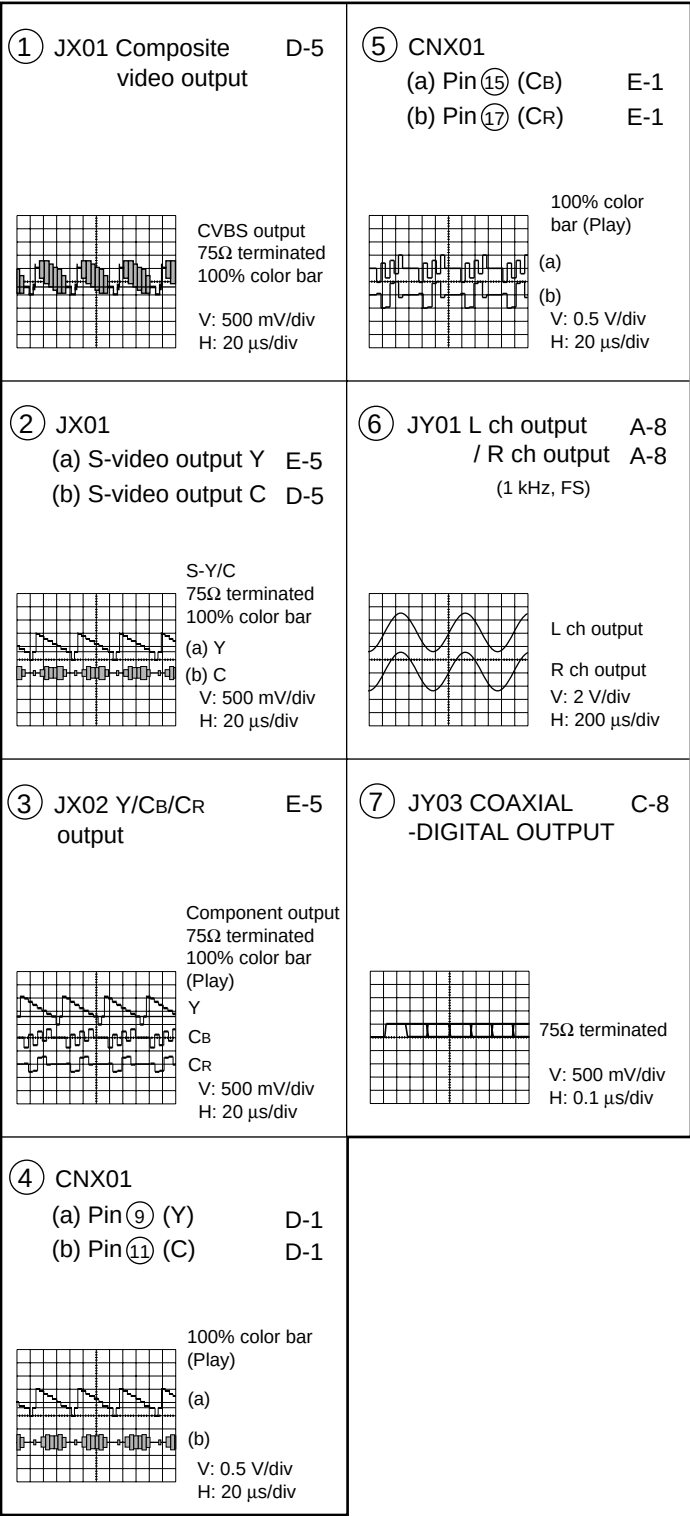


Fig. 3-5-7

Output Circuit Diagram



A
B
C
D
E
F
G

5-5. Motor System Circuit Diagram

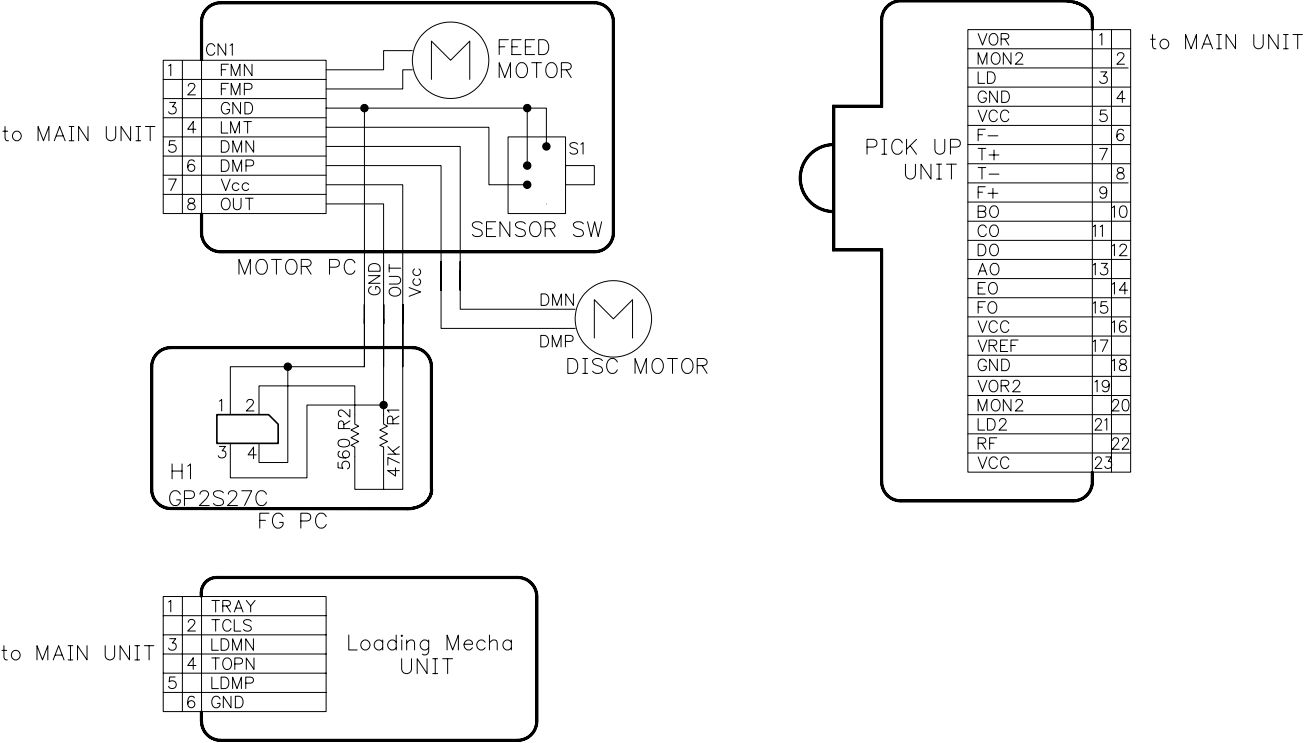


Fig. 3-5-9

1

2

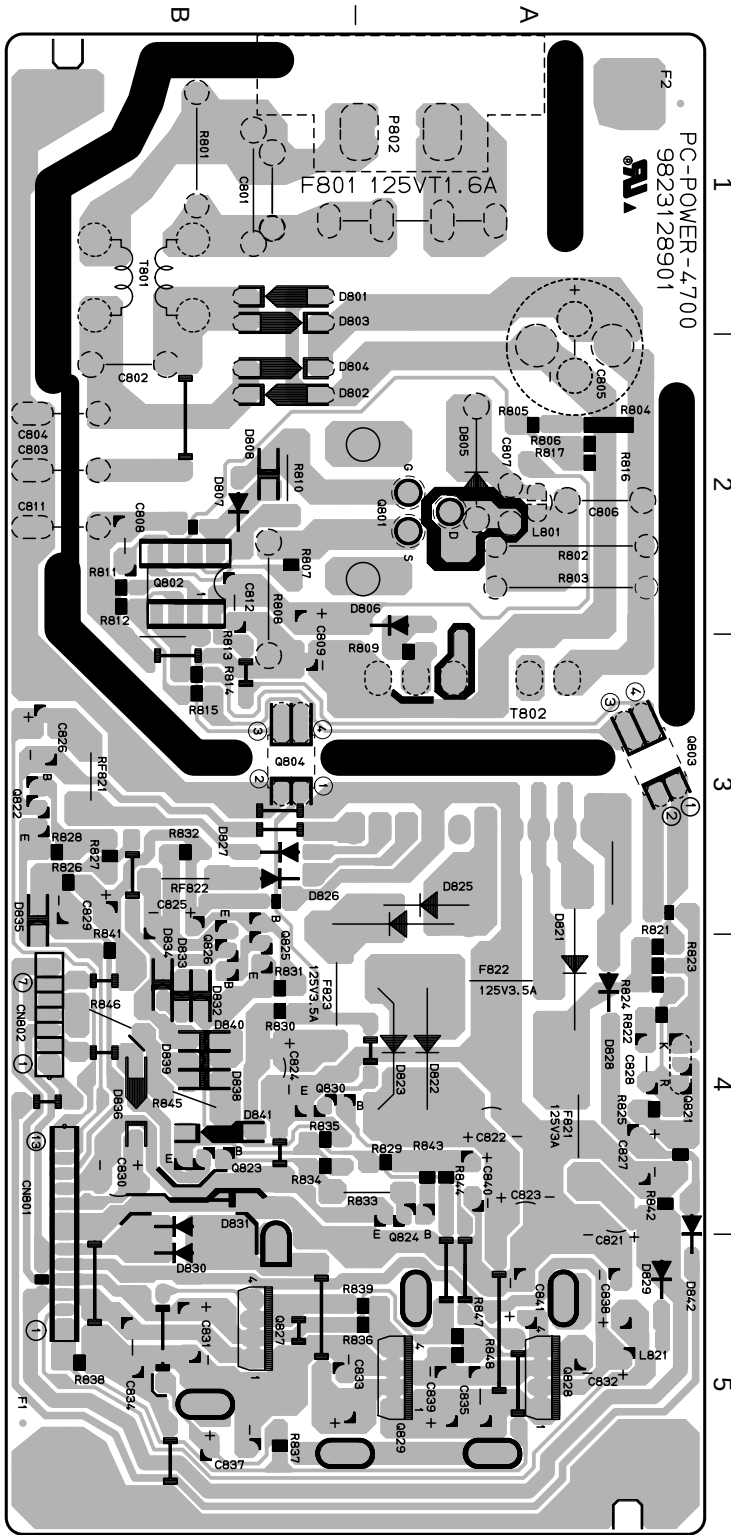
3

4

5

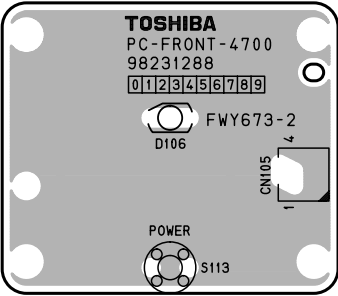
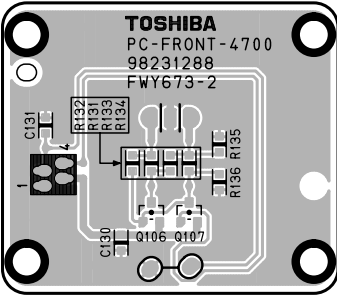
6. PC BOARDS

6-1. Power Supply PC Board



Part No.	Location	Part No.	Location
C801	B1	F822	A4
C802	B2	F823	B4
C803	B2	L801	A2
C804	B2	L821	A5
C805	A2	P802	A1
C806	A2	Q801	A2
C807	A2	Q802	B2
C808	B2	Q803	A3
C809	B3	Q804	B3
C811	B2	Q821	A4
C812	B2	Q822	B3
C821	A4	Q823	B4
C822	A4	Q824	A4
C823	A4	Q825	B4
C824	B4	Q826	B4
C825	B3	Q827	B5
C826	B3	Q828	A5
C827	A4	Q829	A5
C828	A4	Q830	B4
C829	B3	R801	B1
C830	B4	R802	A2
C831	B5	R803	A2
C832	A5	R804	A2
C833	B5	R805	A2
C834	B5	R806	A2
C835	A5	R807	B2
C837	B5	R808	B2
C838	A5	R809	A3
C839	A5	R810	B2
C840	A4	R811	B2
C841	A5	R812	B2
CN801	B4	R813	B3
CN802	B4	R814	B3
D801	B1	R815	B3
D802	B2	R816	A2
D803	B1	R817	A2
D804	B2	R821	A4
D805	A2	R822	A4
D806	B2	R823	A4
D807	B2	R824	A4
D808	B2	R825	A4
D821	A4	R826	B3
D822	A4	R827	B3
D823	A4	R828	B3
D824	B3	R829	A4
D825	A3	R830	B4
D826	B3	R831	B4
D827	B3	R832	B3
D828	A4	R833	B4
D829	A5	R834	B4
D830	B5	R835	B4
D831	B4	R836	B5
D832	B4	R837	B5
D833	B4	R838	B5
D834	B4	R839	B5
D835	B4	R841	B4
D836	B4	R842	A4
D838	B4	R843	A4
D839	B4	R844	A4
D840	B4	R845	B4
D841	B4	R846	B4
D842	A5	R847	A5
F1	B5	R848	A5
F2	A1	RF821	B3
F801	A1	RF822	B3
F821	A4	T801	B1
		T802	A3

Fig. 3-6-1 EU02 Power Supply PC Board (Bottom side)

	1	2	3	4	5
A	6-2. Power Switch PC Board				
B					
C	Fig. 3-6-2 EU04 Power Switch PC Board (Top side)				
D					
E	Fig. 3-6-3 EU04 Power Switch PC Board (Bottom side)				
F					
G					

6-3. Main PC Board

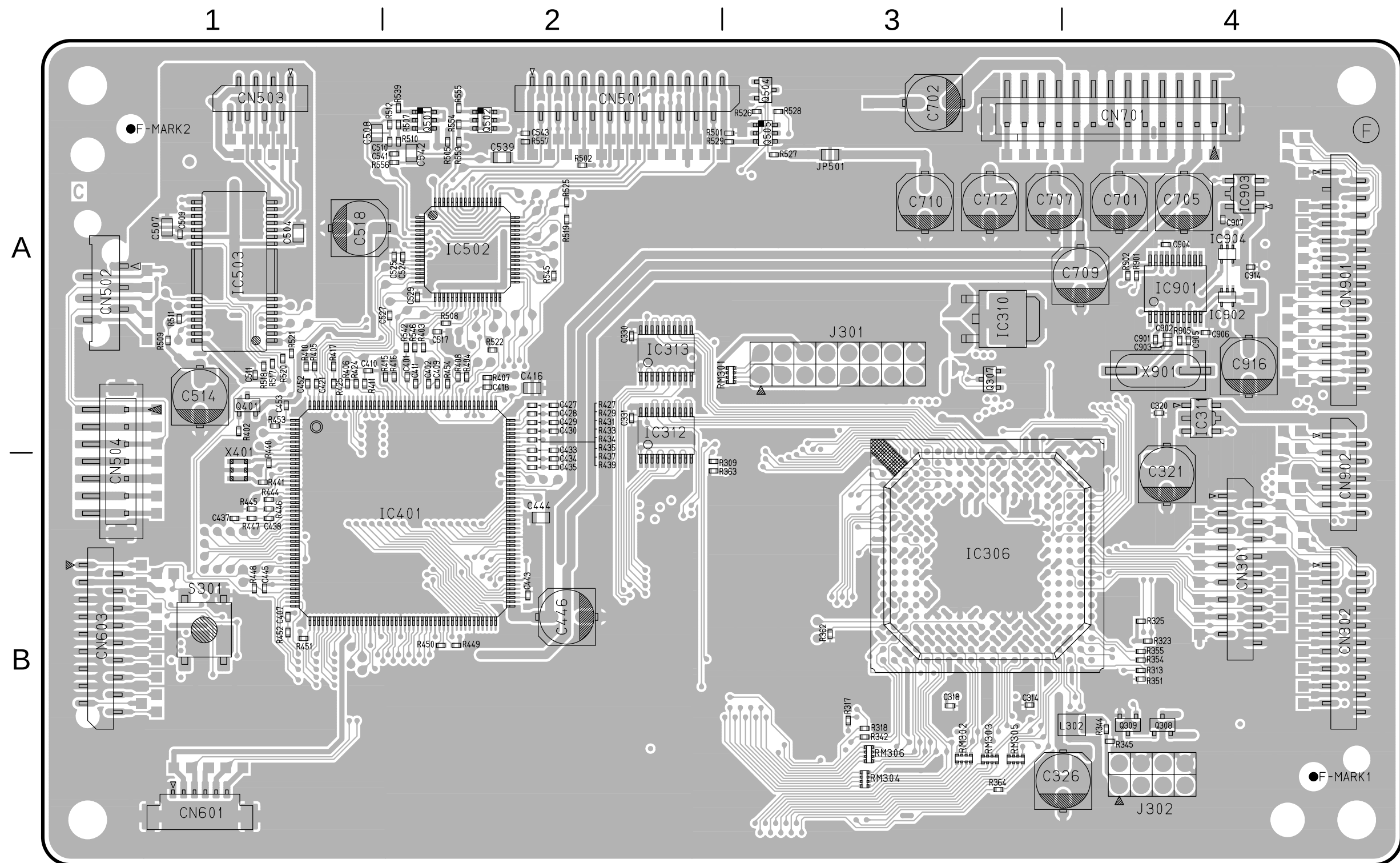


Fig. 3-6-4 EU01 Main PC Board (Top pattern and Top parts location diagram)

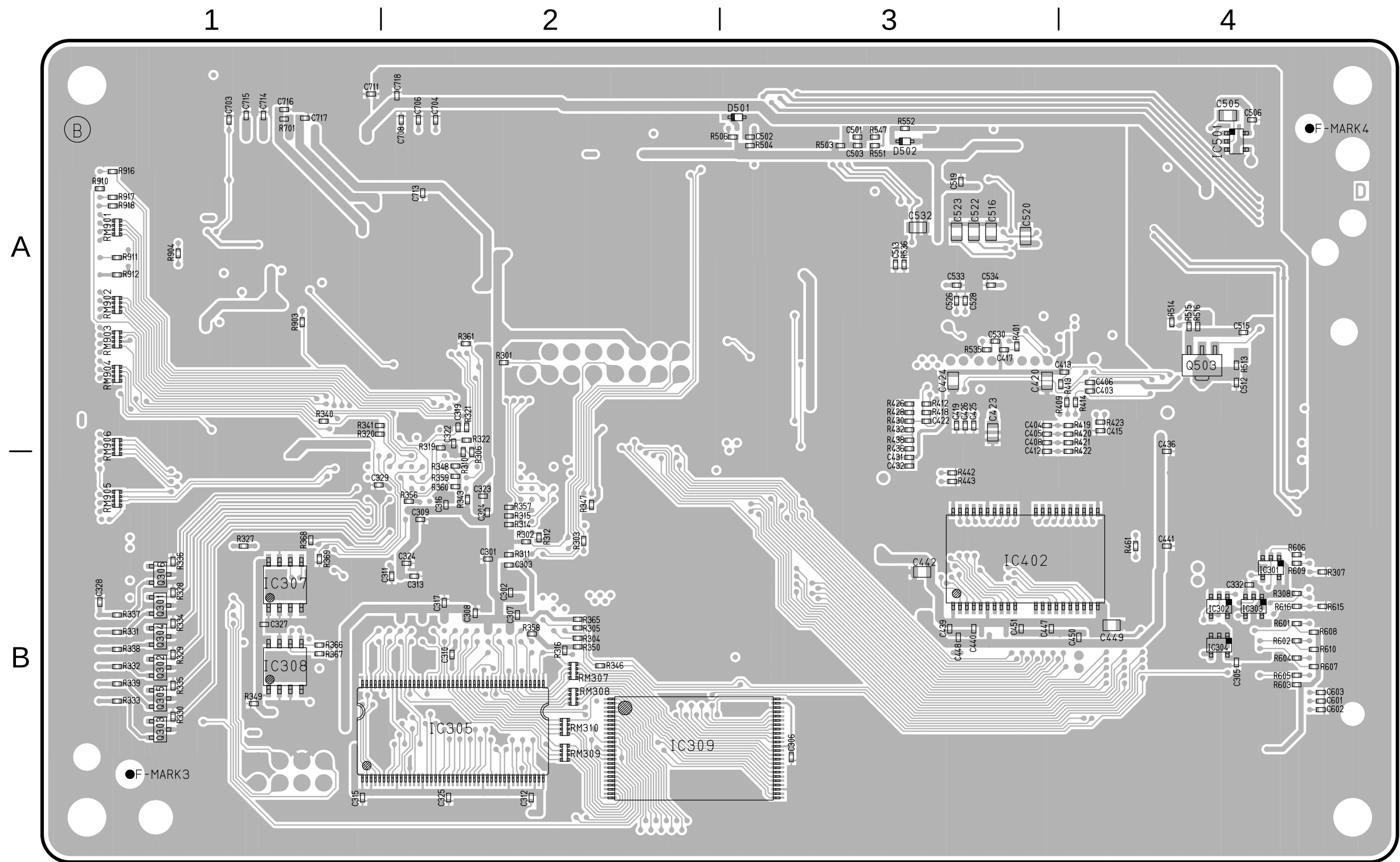


Fig. 3-6-5 EU01 Main PC Board (Bottom pattern and bottom parts location diagram)

Main PC Board (Top Side)

Part No.	Location	Part No.	Location	Part No.	Location
C314	B3	CN601	B1	R444	B1
C318	B3	CN603	B1	R445	B1
C320	A4	CN701	A4	R446	B1
C321	B4	CN901	A4	R447	B1
C326	B4	CN902	B4	R448	B1
C330	A2	IC306	B3	R449	B2
C331	A2	IC310	A3	R450	B2
C401	A2	IC311	A4	R451	B1
C402	A2	IC312	A2	R452	B1
C407	B1	IC313	A2	R453	A1
C409	A2	IC401	B2	R454	A2
C410	A1	IC502	A2	R501	A3
C411	A2	IC503	A1	R502	A2
C416	A2	IC901	A4	R505	A2
C418	A2	IC902	A4	R507	A2
C421	A1	IC903	A4	R508	A2
C427	A2	IC904	A4	R509	A1
C428	A2	J301	A3	R510	A2
C429	A2	J302	B4	R511	A1
C430	A2	JP301	A3	R512	A2
C433	A2	JP302	A3	R517	A1
C434	B2	JP501	A3	R518	A1
C435	B2	L302	B4	R519	A2
C437	B1	Q307	A3	R520	A1
C438	B1	Q308	B4	R521	A1
C443	B2	Q309	B4	R522	A2
C444	B2	Q401	A1	R525	A2
C445	B1	Q501	A2	R526	A3
C446	B2	Q502	A2	R527	A3
C452	A1	Q504	A3	R528	A3
C453	A1	Q505	A3	R529	A3
C504	A1	R309	B2	R539	A2
C507	A1	R313	B4	R542	A2
C508	A1	R317	B3	R545	A2
C509	A1	R318	B3	R546	A2
C510	A2	R323	B4	R553	A2
C511	A1	R325	B4	R554	A2
C514	A1	R342	B3	R555	A2
C517	A2	R344	B4	R556	A2
C518	A1	R345	B4	R557	A2
C524	A2	R351	B4	R901	A4
C525	A2	R354	B4	R902	A4
C527	A2	R355	B4	R905	A4
C529	A2	R362	B3	RM301	A3
C539	A2	R363	B2	RM302	B3
C541	A2	R364	B3	RM303	B3
C542	A2	R402	A1	RM304	B3
C543	A2	R403	A2	RM305	B3
C701	A4	R404	A2	RM306	B3
C702	A3	R405	A1	S301	B1
C705	A4	R406	A1	TP401	A1
C707	A3	R407	A2	TP402	A1
C709	A4	R408	A2	TP403	A2
C710	A3	R410	A1	TP404	A2
C712	A3	R411	A1	TP405	A2
C901	A4	R415	A2	TP406	A2
C902	A4	R416	A2	TP407	A2
C903	A4	R417	A1	TP408	A2
C904	A4	R424	A1	TP409	B2
C905	A4	R425	A1	TP410	B1
C906	A4	R427	A2	TP411	B1
C907	A4	R429	A2	TP412	B1
C914	A4	R431	A2	TP413	B1
C916	A4	R433	A2	TP414	A1
CN301	B4	R434	A2	TP501	A1
CN302	B4	R435	A2	TP502	A2
CN501	A2	R437	B2	TP503	A2
CN502	A1	R439	B2	TP504	A2
CN503	A1	R440	B1	X401	B1
CN504	B1	R441	B1	X901	A4

Main PC Board (Bottom Side)

Part No.	Location	Part No.	Location	Part No.	Location
C301	B2	C601	B4	R357	B2
C302	B2	C602	B4	R358	B2
C303	B2	C603	B4	R359	B2
C304	B2	C703	A1	R360	B2
C305	B4	C704	A2	R361	A2
C306	B3	C706	A2	R365	B2
C307	B2	C708	A2	R366	B1
C308	B2	C711	A1	R367	B1
C309	B2	C713	A2	R368	B1
C310	B2	C714	A1	R369	B1
C311	B2	C715	A1	R401	A3
C312	B2	C716	A1	R409	A4
C313	B2	C717	A1	R412	A3
C315	B1	C718	A2	R413	A4
C316	B2	D501	A3	R414	A4
C317	B2	D502	A3	R418	A3
C319	A2	IC301	B4	R419	A4
C322	A2	IC302	B4	R420	A4
C323	B2	IC303	B4	R421	A4
C324	B2	IC304	B4	R422	B4
C325	B2	IC305	B2	R423	A4
C327	B1	IC307	B1	R426	A3
C328	B1	IC308	B1	R428	A3
C329	B1	IC309	B2	R430	A3
C332	B4	IC402	B3	R432	A3
C403	A4	IC501	A4	R436	A3
C404	A3	Q301	B1	R438	A3
C405	A3	Q302	B1	R442	B3
C406	A4	Q303	B1	R443	B3
C408	A3	Q304	B1	R461	B4
C412	B3	Q305	B1	R503	A3
C413	A4	Q306	B1	R504	A3
C415	A4	Q503	A4	R506	A3
C417	A3	R301	A2	R513	A4
C419	A3	R302	B2	R514	A4
C420	A3	R303	B2	R515	A4
C422	A3	R304	B2	R516	A4
C423	A3	R305	B2	R535	A3
C424	A3	R306	B2	R536	A3
C425	A3	R307	B4	R547	A3
C426	A3	R308	B4	R551	A3
C431	B3	R310	B2	R552	A3
C432	B3	R311	B2	R601	B4
C436	B4	R312	B2	R602	B4
C439	B3	R314	B2	R603	B4
C440	B3	R315	B2	R604	B4
C441	B4	R316	B2	R605	B4
C442	B3	R319	A2	R606	B4
C447	B3	R320	A1	R607	B4
C448	B3	R321	A2	R608	B4
C449	B4	R322	A2	R609	B4
C450	B4	R327	B1	R610	B4
C451	B3	R328	B1	R615	B4
C501	A3	R329	B1	R616	B4
C502	A3	R330	B1	R701	A1
C503	A3	R331	B1	R903	A1
C505	A4	R332	B1	R904	A1
C506	A4	R333	B1	R910	A1
C512	A4	R334	B1	R911	A1
C513	A3	R335	B1	R912	A1
C515	A4	R336	B1	R916	A1
C516	A3	R337	B1	R917	A1
C519	A3	R338	B1	R918	A1
C520	A3	R339	B1	RM307	B2
C522	A3	R340	A1	RM308	B2
C523	A3	R341	A1	RM309	B2
C526	A3	R343	B2	RM310	B2
C528	A3	R346	B2	RM901	A1
C530	A3	R347	B2	RM902	A1
C532	A3	R348	B2	RM903	A1
C533	A3	R349	B1	RM904	A1
C534	A3	R350	B2	RM905	B1
		R356	B2	RM906	A1

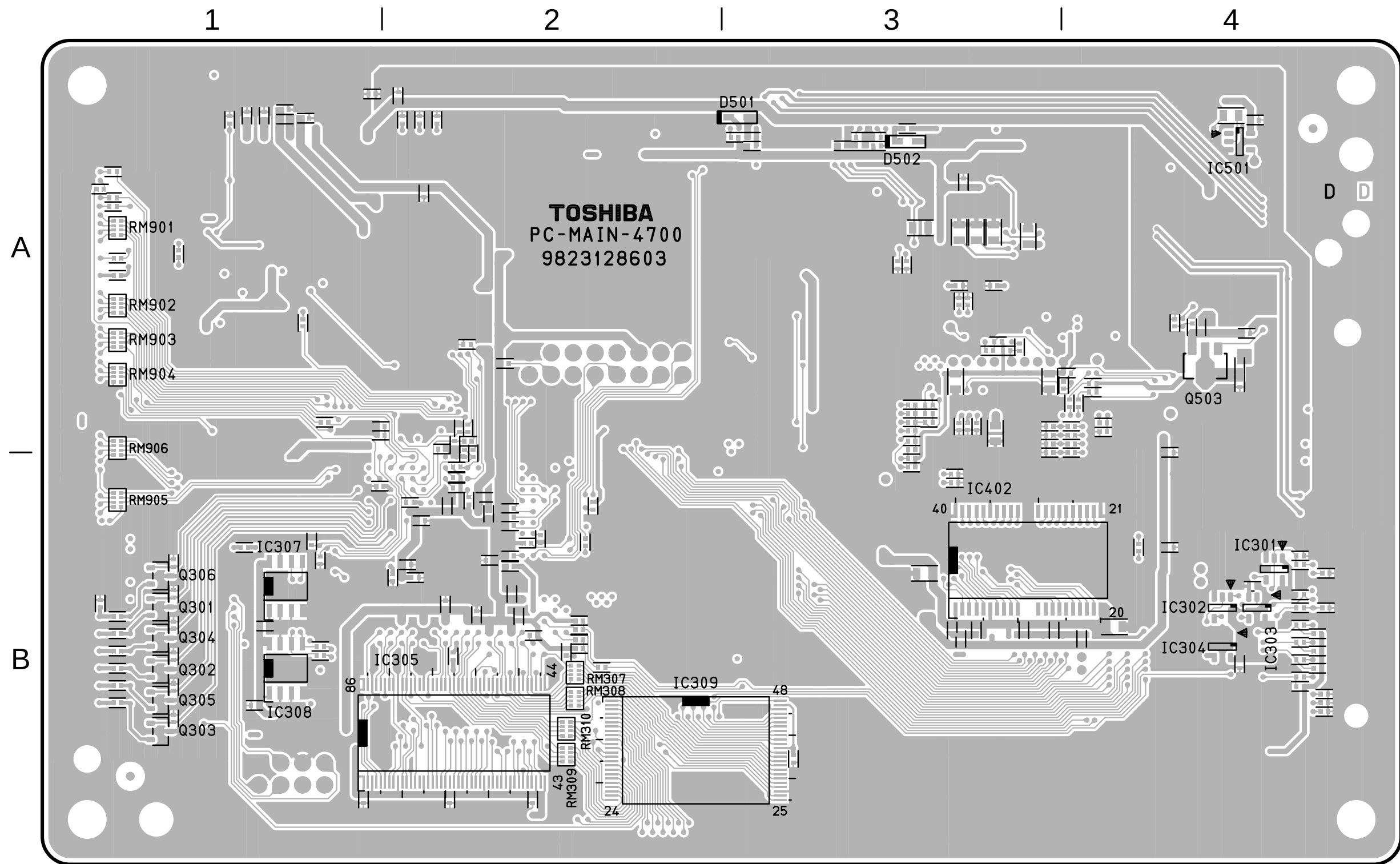


Fig. 3-6-7 EU01 Main PC Board (Bottom pattern, character/symbol)

6-4. Output PC Board

Note that the output PC board has two types.

6-4-1. Output PC Board (No. 9823128700)

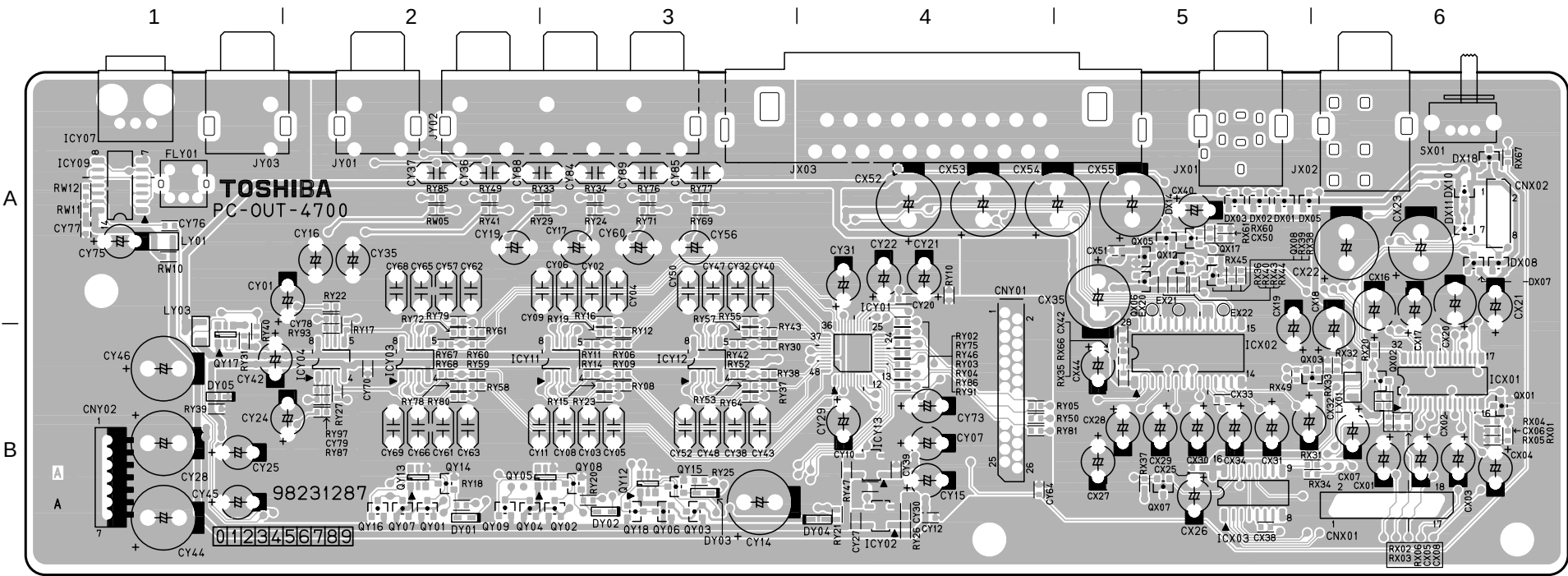


Fig. 3-6-8 EU05 Output PC Board (Top side)

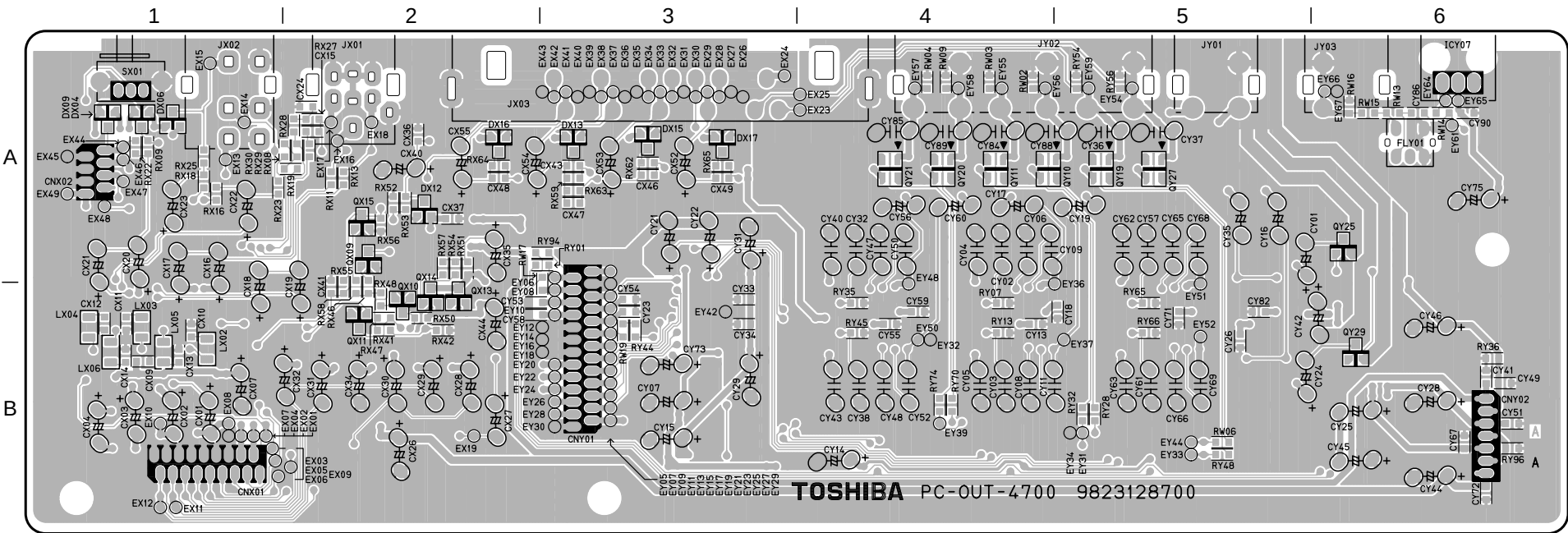


Fig. 3-6-9 EU05 Output PC Board (Bottom side)

Part No.	Location	Part No.	Location	Part No.	Location	Part No.	Location	Part No.	Location
CNX01	B6	CY14	B3	DX01	A5	QY06	B3	RY18	B2
CNX02	A6	CY15	B4	DX02	A5	QY07	B2	RY19	B3
CNY01	B4	CY16	A2	DX03	A5	QY08	B3	RY20	B3
CNY02	B1	CY17	A3	DX05	A5	QY09	B2	RY21	B4
CX01	B6	CY19	A2	DX07	A6	QY12	B3	RY22	A2
CX02	B6	CY20	A4	DX08	A6	QY13	B2	RY23	B3
CX03	B6	CY21	A4	DX10	A6	QY14	B2	RY24	A3
CX04	B6	CY22	A4	DX11	A6	QY15	B3	RY25	B3
CX05	B6	CY24	B2	DX14	A5	QY16	B2	RY26	B4
CX06	B6	CY25	B1	DX18	A6	QY17	B1	RY27	B2
CX07	B6	CY27	B4	DY01	B2	QY18	B3	RY29	A3
CX08	B6	CY28	B1	DY02	B3	RW05	A2	RY30	B3
CX16	A6	CY29	B4	DY03	B3	RW10	A1	RY31	B1
CX17	A6	CY30	B4	DY04	B4	RW11	A1	RY33	A3
CX18	B6	CY31	A4	DY05	B1	RW12	A1	RY34	A3
CX19	B5	CY32	A3	EX20	A5	RX01	B6	RY37	B3
CX20	A6	CY35	A2	EX21	A5	RX02	B6	RY38	B3
CX21	A6	CY36	A2	EX22	A5	RX03	B6	RY39	B1
CX22	A6	CY37	A2	FLY01	A1	RX04	B6	RY40	B1
CX23	A6	CY38	B3	ICX01	B6	RX05	B6	RY41	A2
CX25	B5	CY39	B4	ICX02	B5	RX06	B6	RY42	B3
CX26	B5	CY40	A3	ICX03	B5	RX20	B6	RY43	B3
CX27	B5	CY42	B1	ICY01	B4	RX31	B6	RY46	B4
CX28	B5	CY43	B3	ICY02	B4	RX32	B6	RY47	B4
CX29	B5	CY44	B1	ICY03	B2	RX33	B6	RY49	A2
CX30	B5	CY45	B1	ICY04	B2	RX34	B6	RY50	B4
CX31	B5	CY46	B1	ICY07	A1	RX35	B5	RY52	B3
CX32	B5	CY47	A3	ICY09	A1	RX36	A5	RY53	B3
CX33	B5	CY48	B3	ICY11	B3	RX37	B5	RY55	A3
CX34	B5	CY50	A3	ICY12	B3	RX38	A5	RY57	B3
CX35	A5	CY52	B3	ICY13	B4	RX39	A5	RY58	B2
CX38	B5	CY56	A3	JX01	A5	RX40	A5	RY59	B2
CX40	A5	CY57	A2	JX02	A6	RX43	A5	RY60	B2
CX42	B5	CY60	A3	JX03	A4	RX44	A5	RY61	B2
CX44	B5	CY61	B2	JY01	A2	RX45	A5	RY64	B3
CX50	A5	CY62	A2	JY02	A3	RX49	B5	RY67	B2
CX51	A5	CY63	B2	JY03	A1	RX60	A5	RY68	B2
CX52	A4	CY64	B4	LX01	B6	RX61	A5	RY69	A3
CX53	A4	CY65	A2	LY01	A1	RX66	B5	RY71	A3
CX54	A5	CY66	B2	LY03	B1	RX67	A6	RY72	B2
CX55	A5	CY68	A2	QX01	B6	RY02	A4	RY75	B4
CY01	A2	CY69	B2	QX02	B6	RY03	B4	RY76	A3
CY02	A3	CY70	B2	QX03	B6	RY04	B4	RY77	A3
CY03	B3	CY73	B4	QX05	A5	RY05	B4	RY78	B2
CY04	A3	CY75	A1	QX06	A5	RY06	B3	RY79	A2
CY05	B3	CY76	A1	QX07	B5	RY08	B3	RY80	B2
CY06	A3	CY77	A1	QX08	A5	RY09	B3	RY81	B4
CY07	B4	CY78	A2	QX12	A5	RY10	A4	RY85	A2
CY08	B3	CY79	B2	QX17	A5	RY11	B3	RY86	B4
CY09	A3	CY84	A3	QY01	B2	RY12	B3	RY87	B2
CY10	B4	CY85	A3	QY02	B3	RY14	B3	RY91	B4
CY11	B2	CY88	A3	QY03	B3	RY15	B3	RY93	B2
CY12	B4	CY89	A3	QY04	B2	RY16	A3	RY97	B2
				QY05	B3	RY17	B2	SX01	A6

Part No.	Location	Part No.	Location	Part No.	Location	Part No.	Location	Part No.	Location
CX09	B1	EX02	B1	EY05	A3	EY61	A6	RX22	A1
CX10	B1	EX03	B1	EY06	A3	EY64	A6	RX23	A1
CX11	B1	EX04	B1	EY07	B3	EY65	A6	RX25	A1
CX12	B1	EX05	B1	EY08	B3	EY66	A6	RX27	A2
CX13	B1	EX06	B1	EY09	B3	EY67	A6	RX28	A2
CX14	B1	EX07	B1	EY10	B3	LX02	B1	RX29	A2
CX15	A2	EX08	B1	EY11	B3	LX03	B1	RX30	A1
CX24	A2	EX09	B2	EY12	B3	LX04	B1	RX41	B2
CX36	A2	EX10	B1	EY13	B3	LX05	B1	RX42	B2
CX37	A2	EX11	B1	EY14	B3	LX06	B1	RX46	B2
CX41	B2	EX12	B1	EY15	B3	QX09	A2	RX47	B2
CX43	A3	EX13	A1	EY16	B3	QX10	B2	RX48	B2
CX46	A3	EX14	A1	EY17	B3	QX11	B2	RX50	B2
CX47	A3	EX15	A1	EY18	B3	QX13	B2	RX51	A2
CX48	A2	EX16	A2	EY19	B3	QX14	B2	RX52	A2
CX49	A3	EX17	A2	EY20	B3	QX15	A2	RX53	A2
CY13	B4	EX18	A2	EY21	B3	QY10	A4	RX54	A2
CY18	B5	EX19	B2	EY22	B3	QY11	A4	RX55	B2
CY23	B3	EX23	A4	EY23	B3	QY19	A5	RX56	A2
CY26	B5	EX24	A3	EY24	B3	QY20	A4	RX57	A2
CY33	B3	EX25	A4	EY25	B3	QY21	A4	RX58	B2
CY34	B3	EX26	A3	EY26	B3	QY25	A6	RX59	A3
CY41	B6	EX27	A3	EY27	B3	QY27	A5	RX62	A3
CY49	B6	EX28	A3	EY28	B3	QY29	B6	RX63	A3
CY51	B6	EX29	A3	EY29	B3	RW02	A4	RX64	A2
CY53	B2	EX30	A3	EY30	B3	RW03	A4	RX65	A3
CY54	B3	EX31	A3	EY31	B5	RW04	A4	RY01	A3
CY55	B4	EX32	A3	EY32	B4	RW06	B5	RY07	B4
CY58	B2	EX33	A3	EY33	B5	RW09	A4	RY13	B4
CY59	B4	EX34	A3	EY34	B5	RW13	A6	RY28	B5
CY67	B6	EX35	A3	EY36	B5	RW14	A6	RY32	B5
CY71	B5	EX36	A3	EY37	B5	RW15	A6	RY35	B4
CY72	B6	EX37	A3	EY39	B4	RW16	A6	RY36	B6
CY82	B5	EX38	A3	EY42	B3	RW17	B3	RY44	B3
CY86	A6	EX39	A3	EY44	B5	RW19	B3	RY45	B4
CY90	A6	EX40	A3	EY48	B4	RX07	A2	RY48	B5
DX04	A1	EX41	A3	EY50	B4	RX08	A2	RY54	A5
DX06	A1	EX42	A3	EY51	B5	RX09	A1	RY56	A5
DX09	A1	EX43	A3	EY52	B5	RX10	A2	RY65	B5
DX12	A2	EX44	A1	EY54	A5	RX11	A2	RY66	B5
DX13	A3	EX45	A1	EY55	A4	RX13	A2	RY70	B4
DX15	A3	EX46	A1	EY56	A4	RX16	A1	RY74	B4
DX16	A2	EX47	A1	EY57	A4	RX17	A2	RY94	A3
DX17	A3	EX48	A1	EY58	A4	RX18	A1	RY96	B6
EX01	B1	EX49	A1	EY59	A5	RX19	A2		

6-4-2. Output PC Board (No. 9823128701)

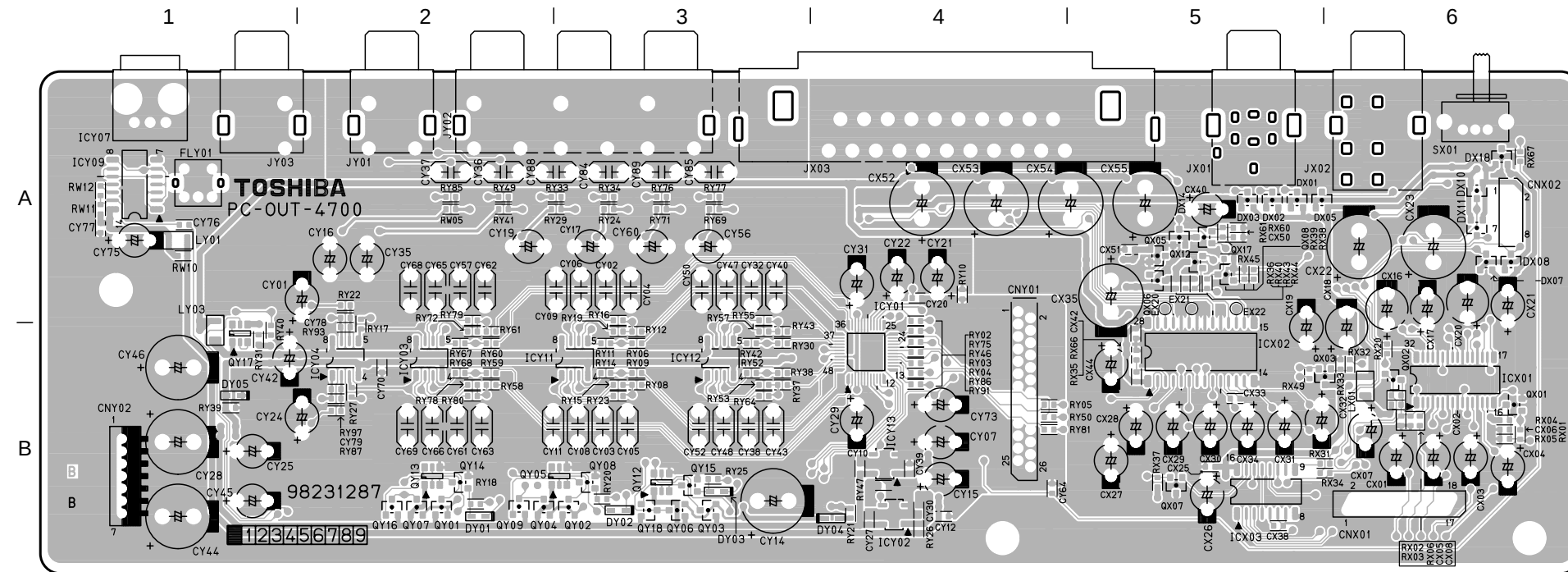


Fig. 3-6-10 EU05 Output PC Board (Top side)

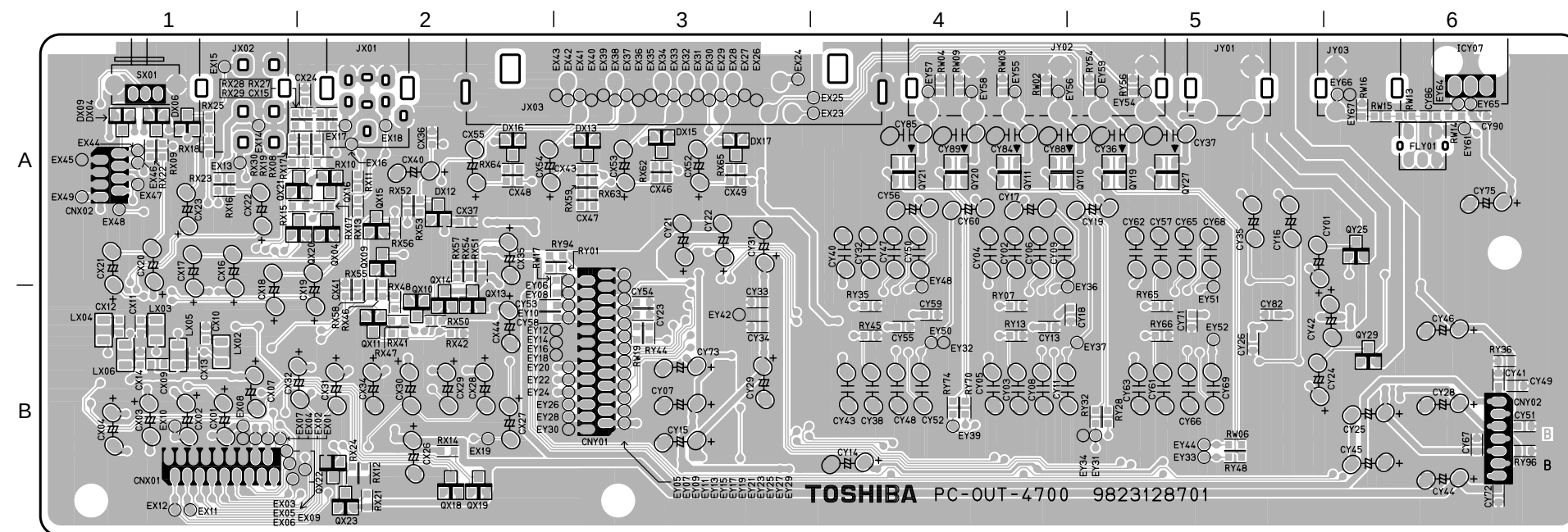


Fig. 3-6-11 EU05 Output PC Board (Bottom side)

Part No.	Location	Part No.	Location	Part No.	Location	Part No.	Location	Part No.	Location
CNX01	B6	CY14	B3	DX01	A5	QY06	B3	RY18	B2
CNX02	A6	CY15	B4	DX02	A5	QY07	B2	RY19	B3
CNY01	B4	CY16	A2	DX03	A5	QY08	B3	RY20	B3
CNY02	B1	CY17	A3	DX05	A5	QY09	B2	RY21	B4
CX01	B6	CY19	A2	DX07	A6	QY12	B3	RY22	A2
CX02	B6	CY20	A4	DX08	A6	QY13	B2	RY23	B3
CX03	B6	CY21	A4	DX10	A6	QY14	B2	RY24	A3
CX04	B6	CY22	A4	DX11	A6	QY15	B3	RY25	B3
CX05	B6	CY24	B2	DX14	A5	QY16	B2	RY26	B4
CX06	B6	CY25	B1	DX18	A6	QY17	B1	RY27	B2
CX07	B6	CY27	B4	DY01	B2	QY18	B3	RY29	A3
CX08	B6	CY28	B1	DY02	B3	RW05	A2	RY30	B3
CX16	A6	CY29	B4	DY03	B3	RW10	A1	RY31	B1
CX17	A6	CY30	B4	DY04	B4	RW11	A1	RY33	A3
CX18	B6	CY31	A4	DY05	B1	RW12	A1	RY34	A3
CX19	B5	CY32	A3	EX20	A5	RX01	B6	RY37	B3
CX20	A6	CY35	A2	EX21	A5	RX02	B6	RY38	B3
CX21	A6	CY36	A2	EX22	A5	RX03	B6	RY39	B1
CX22	A6	CY37	A2	FLY01	A1	RX04	B6	RY40	B1
CX23	A6	CY38	B3	ICX01	B6	RX05	B6	RY41	A2
CX25	B5	CY39	B4	ICX02	B5	RX06	B6	RY42	B3
CX26	B5	CY40	A3	ICX03	B5	RX20	B6	RY43	B3
CX27	B5	CY42	B1	ICY01	B4	RX31	B6	RY46	B4
CX28	B5	CY43	B3	ICY02	B4	RX32	B6	RY47	B4
CX29	B5	CY44	B1	ICY03	B2	RX33	B6	RY49	A2
CX30	B5	CY45	B1	ICY04	B2	RX34	B6	RY50	B4
CX31	B5	CY46	B1	ICY07	A1	RX35	B5	RY52	B3
CX32	B5	CY47	A3	ICY09	A1	RX36	A5	RY53	B3
CX33	B5	CY48	B3	ICY11	B3	RX37	B5	RY55	A3
CX34	B5	CY50	A3	ICY12	B3	RX38	A5	RY57	B3
CX35	A5	CY52	B3	ICY13	B4	RX39	A5	RY58	B2
CX38	B5	CY56	A3	JX01	A5	RX40	A5	RY59	B2
CX40	A5	CY57	A2	JX02	A6	RX43	A5	RY60	B2
CX42	B5	CY60	A3	JX03	A4	RX44	A5	RY61	B2
CX44	B5	CY61	B2	JY01	A2	RX45	A5	RY64	B3
CX50	A5	CY62	A2	JY02	A3	RX49	B5	RY67	B2
CX51	A5	CY63	B2	JY03	A1	RX60	A5	RY68	B2
CX52	A4	CY64	B4	LX01	B6	RX61	A5	RY69	A3
CX53	A4	CY65	A2	LY01	A1	RX66	B5	RY71	A3
CX54	A5	CY66	B2	LY03	B1	RX67	A6	RY72	B2
CX55	A5	CY68	A2	QX01	B6	RY02	A4	RY75	B4
CY01	A2	CY69	B2	QX02	B6	RY03	B4	RY76	A3
CY02	A3	CY70	B2	QX03	B6	RY04	B4	RY77	A3
CY03	B3	CY73	B4	QX05	A5	RY05	B4	RY78	B2
CY04	A3	CY75	A1	QX06	A5	RY06	B3	RY79	A2
CY05	B3	CY76	A1	QX07	B5	RY08	B3	RY80	B2
CY06	A3	CY77	A1	QX08	A5	RY09	B3	RY81	B4
CY07	B4	CY78	A2	QX12	A5	RY10	A4	RY85	A2
CY08	B3	CY79	B2	QX17	A5	RY11	B3	RY86	B4
CY09	A3	CY84	A3	QY01	B2	RY12	B3	RY87	B2
CY10	B4	CY85	A3	QY02	B3	RY14	B3	RY91	B4
CY11	B2	CY88	A3	QY03	B3	RY15	B3	RY93	B2
CY12	B4	CY89	A3	QY04	B2	RY16	A3	RY97	B2
				QY05	B3	RY17	B2	SX01	A6

Part No.	Location	Part No.	Location	Part No.	Location	Part No.	Location	Part No.	Location
CX09	B1	EX04	B1	EY09	B3	LX03	B1	RX18	A1
CX10	B1	EX05	B1	EY10	B3	LX04	B1	RX19	A2
CX11	B1	EX06	B1	EY11	B3	LX05	B1	RX21	B2
CX12	B1	EX07	B1	EY12	B3	LX06	B1	RX22	A1
CX13	B1	EX08	B1	EY13	B3	QX04	A2	RX23	A1
CX14	B1	EX09	B2	EY14	B3	QX09	A2	RX24	B2
CX15	A2	EX10	B1	EY15	B3	QX10	B2	RX25	A1
CX24	A2	EX11	B1	EY16	B3	QX11	B2	RX27	A2
CX36	A2	EX12	B1	EY17	B3	QX13	B2	RX28	A2
CX37	A2	EX13	A1	EY18	B3	QX14	B2	RX29	A2
CX41	B2	EX14	A1	EY19	B3	QX15	A2	RX30	A1
CX43	A3	EX15	A1	EY20	B3	QX16	A2	RX41	B2
CX46	A3	EX16	A2	EY21	B3	QX18	B2	RX42	B2
CX47	A3	EX17	A2	EY22	B3	QX19	B2	RX46	B2
CX48	A2	EX18	A2	EY23	B3	QX20	A2	RX47	B2
CX49	A3	EX19	B2	EY24	B3	QX21	A2	RX48	B2
CY13	B4	EX23	A4	EY25	B3	QX22	B2	RX50	B2
CY18	B5	EX24	A3	EY26	B3	QX23	B2	RX51	A2
CY23	B3	EX25	A4	EY27	B3	QY10	A4	RX52	A2
CY26	B5	EX26	A3	EY28	B3	QY11	A4	RX53	A2
CY33	B3	EX27	A3	EY29	B3	QY19	A5	RX54	A2
CY34	B3	EX28	A3	EY30	B3	QY20	A4	RX55	B2
CY41	B6	EX29	A3	EY31	B5	QY21	A4	RX56	A2
CY49	B6	EX30	A3	EY32	B4	QY25	A6	RX57	A2
CY51	B6	EX31	A3	EY33	B5	QY27	A5	RX58	B2
CY53	B2	EX32	A3	EY34	B5	QY29	B6	RX59	A3
CY54	B3	EX33	A3	EY36	B5	RW02	A4	RX62	A3
CY55	B4	EX34	A3	EY37	B5	RW03	A4	RX63	A3
CY58	B2	EX35	A3	EY39	B4	RW04	A4	RX64	A2
CY59	B4	EX36	A3	EY42	B3	RW06	B5	RX65	A3
CY67	B6	EX37	A3	EY44	B5	RW09	A4	RY01	A3
CY71	B5	EX38	A3	EY48	B4	RW13	A6	RY07	B4
CY72	B6	EX39	A3	EY50	B4	RW14	A6	RY13	B4
CY82	B5	EX40	A3	EY51	B5	RW15	A6	RY28	B5
CY86	A6	EX41	A3	EY52	B5	RW16	A6	RY32	B5
CY90	A6	EX42	A3	EY54	A5	RW17	B3	RY35	B4
DX04	A1	EX43	A3	EY55	A4	RW19	B3	RY36	B6
DX06	A1	EX44	A1	EY56	A4	RX07	A2	RY44	B3
DX09	A1	EX45	A1	EY57	A4	RX08	A2	RY45	B4
DX12	A2	EX46	A1	EY58	A4	RX09	A1	RY48	B5
DX13	A3	EX47	A1	EY59	A5	RX10	A2	RY54	A5
DX15	A3	EX48	A1	EY61	A6	RX11	A2	RY56	A5
DX16	A2	EX49	A1	EY64	A6	RX12	B2	RY65	B5
DX17	A3	EY05	A3	EY65	A6	RX13	A2	RY66	B5
EX01	B1	EY06	A3	EY66	A6	RX14	B2	RY70	B4
EX02	B1	EY07	B3	EY67	A6	RX15	A2	RY74	B4
EX03	B1	EY08	B3	LX02	B1	RX16	A1	RY94	A3
						RX17	A2	RY96	B6

6-5. Front Display PC Board

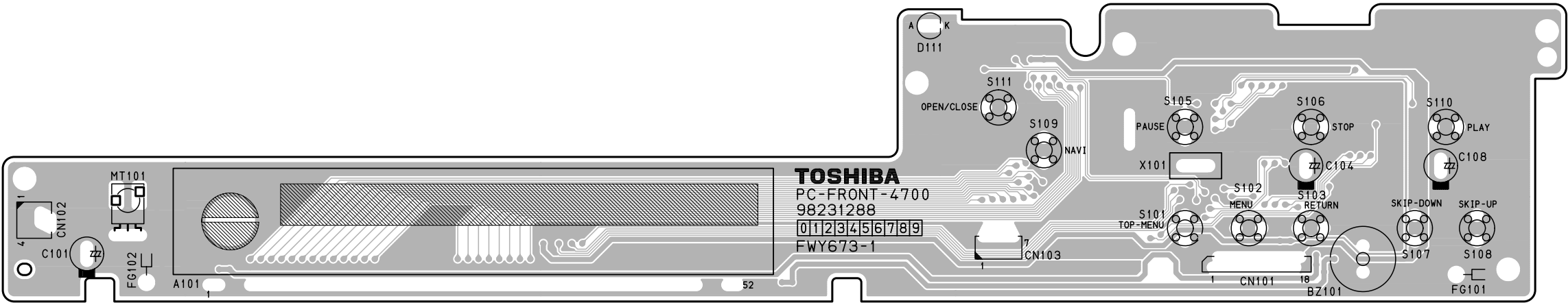


Fig. 3-6-12 EU03 Front Display PC Board (Top Side)

Part No.	Location
A101	C2
BZ101	C8
C101	C1
C104	B8
C108	B8
CN101	C7
CN102	C1
CN103	C6
D111	B6
FG101	C8
FG102	C2
MT101	B2
S101	C7
S102	B7
S103	C8
S105	B7
S106	B8
S107	C8
S108	C8
S109	B6
S110	B8
S111	B6
X101	B7

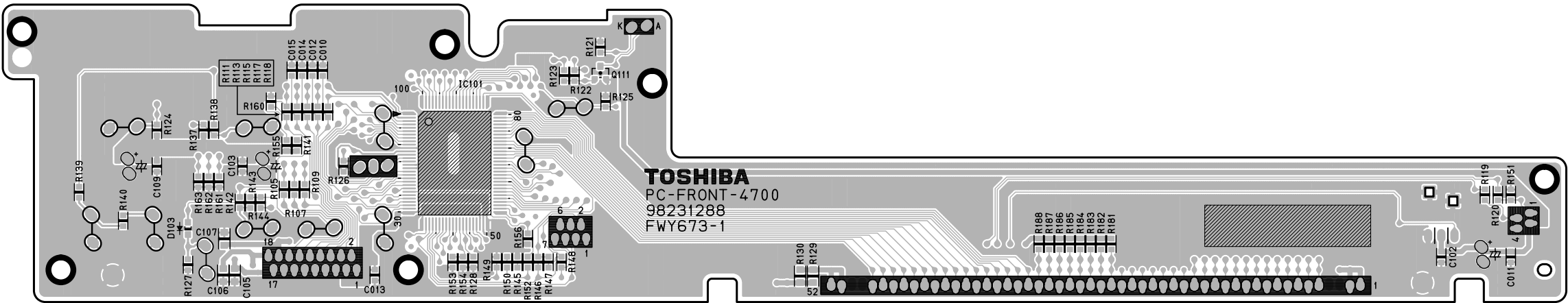


Fig. 3-6-13 EU03 Front Display PC Board (Bottom Side)

Part No.	Location	Part No.	Location
C010	D3	R129	F5
C011	F9	R130	F5
C012	D3	R137	E2
C013	F3	R138	E2
C014	D3	R139	E1
C015	D3	R140	E2
C102	F8	R141	E3
C103	E2	R142	E2
C105	F2	R143	E2
C106	F2	R144	E2
C107	E2	R145	F4
C109	E2	R146	F4
D103	E2	R147	F4
IC101	E3	R148	F4
Q111	E4	R149	F4
R105	E2	R150	F4
R107	E3	R151	E9
R109	E3	R152	F4
R111	E2	R153	F3
R113	E2	R154	F3
R115	E2	R155	E2
R117	E2	R156	E4
R118	E2	R161	E2
R119	E9	R162	E2
R120	E9	R163	E2
R121	D4	R169	E2
R122	E4	R181	E7
R123	E4	R182	E7
R124	E2	R183	E7
R125	E4	R184	E7
R126	E3	R185	E6
R127	F2	R186	E6
R128	F3	R187	E6
		R188	E6

SECTION 4 PARTS LIST

SAFETY PRECAUTION

The parts identified by ! ($\triangle$) mark are critical for safety. Replace only with part number specified.

The mounting position of replacement is to be identical with originals.

The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

NOTICE

The part number must be used when ordering parts in order to assist in processing, be sure to include the model number and description.

ABBREVIATIONS

1. Integrated Circuit (IC)

2. Capacitor (Cap)

- Capacitance Tolerance (for Nominal Capacitance more than 10pF)

Table 4-2-1

Symbol	B	C	D	F	G	J	K	M	N
Tolerance %	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10	± 20	± 30

Symbol	P	Q	T	U	V	W	X	Y	Z
Tolerance %	$+100$ 0	$+30$ -10	$+50$ -10	$+75$ -10	$+20$ -10	$+100$ -10	$+40$ -20	$+150$ -10	$+80$ -20

Ex. 10MF J = $10\mu\text{F} \pm 5\%$

- Capacitance Tolerance (for Nominal Capacitance 10pF or less)

Table 4-2-2

Symbol	B	C	D	F	G
Tolerance pF	± 0.1	± 0.25	± 0.5	± 1	± 2

Ex. 10pF G = $10\text{pF} \pm 2\text{pF}$

3. Resistor (Res)

- Resistance tolerance

Table 4-3-1

Symbol	B	C	D	F	G	J	K	M
Tolerance %	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10	± 20

Ex. 470ohm J = $470\text{ohm} \pm 5\%$

4. EXPLODED VIEWS

4-1. Packing Assembly

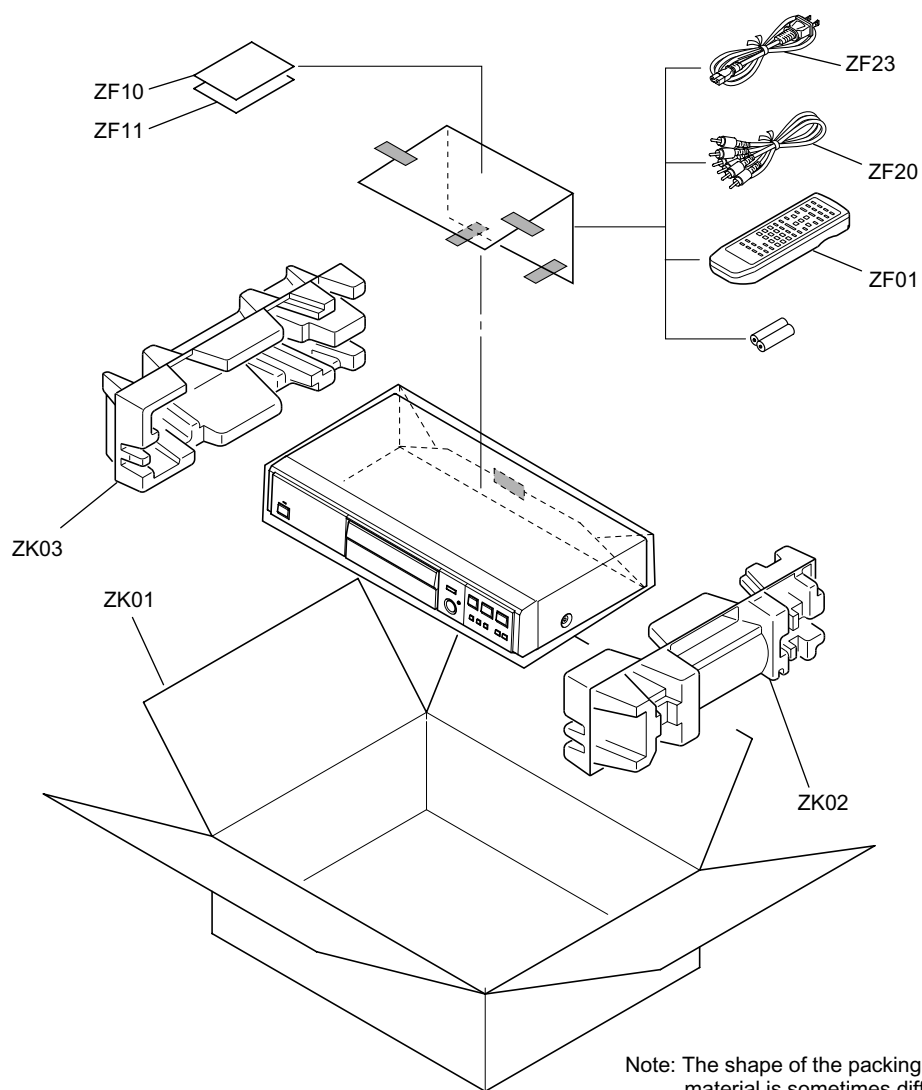


Fig. 4-4-1

4-2. Chassis Assembly

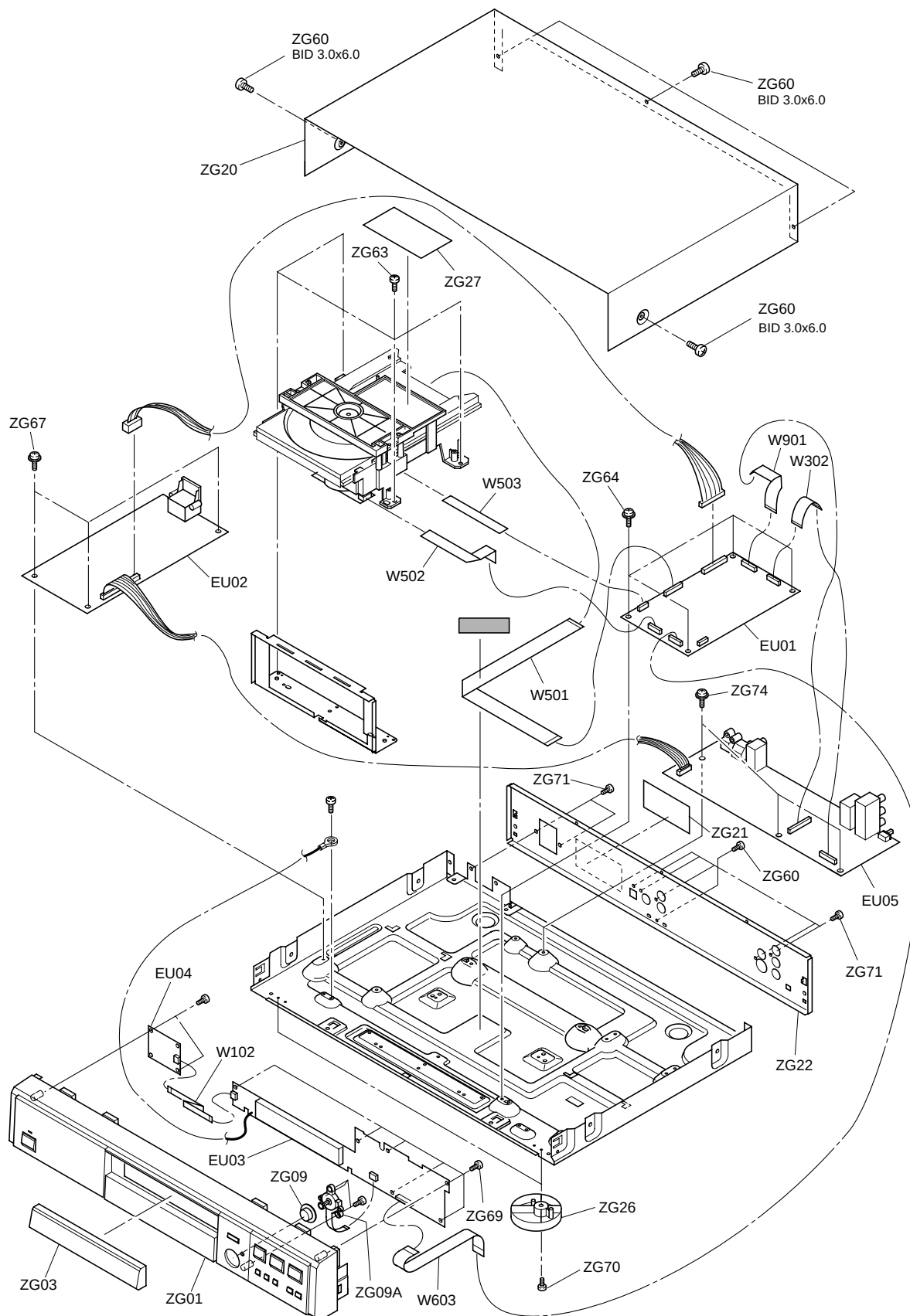


Fig. 4-4-2

4-3. Mechanism Assembly

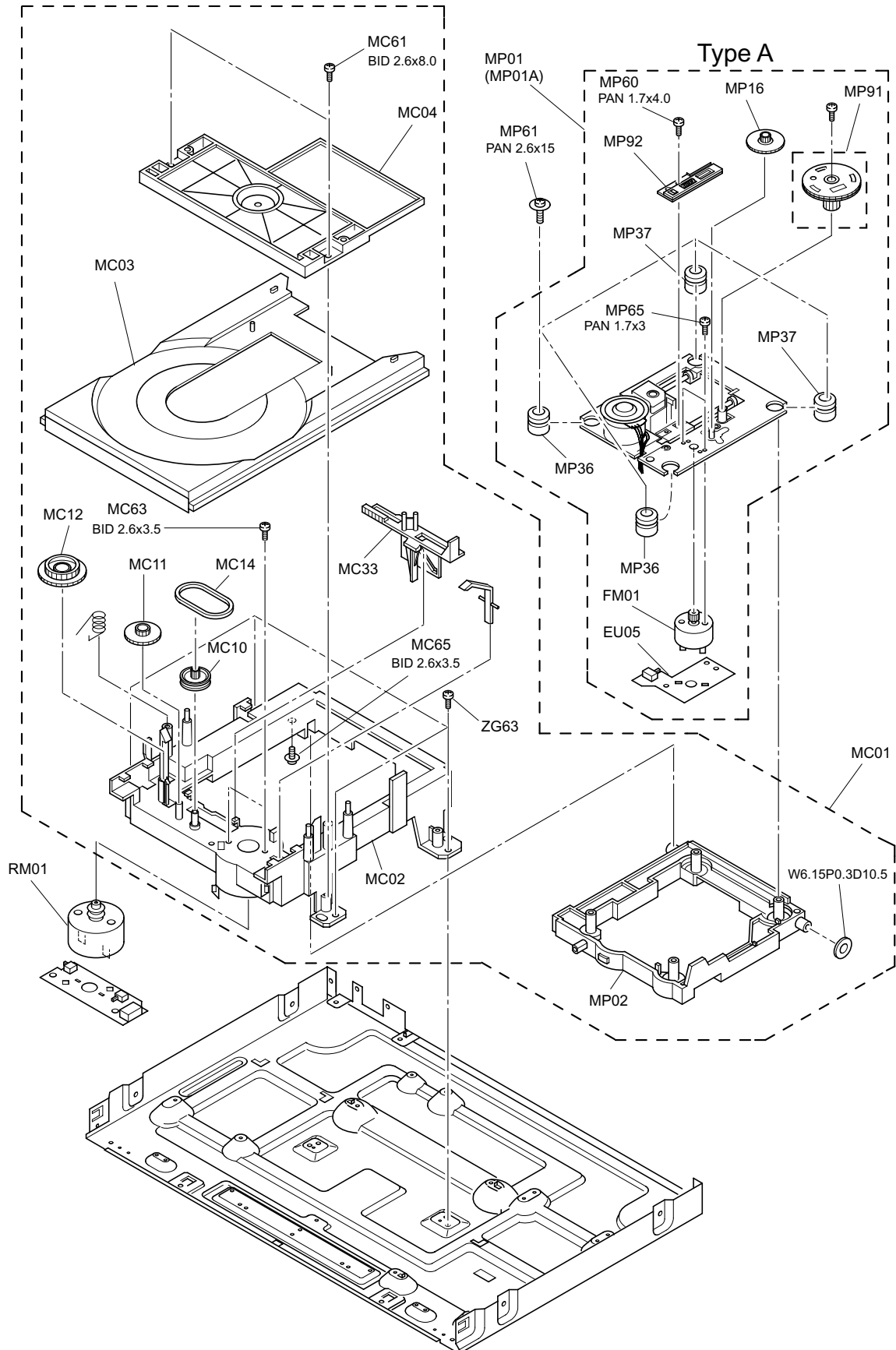


Fig. 4-4-3

Mechanism Assembly (Type B)

Note:

The pickup mechanism assembly has two types, A and B of which shapes differ.

Only Type A is a service part. Type B can be changed to Type A pickup free from any performance problem.

Type A also has two types, but either of the part can be used for service.

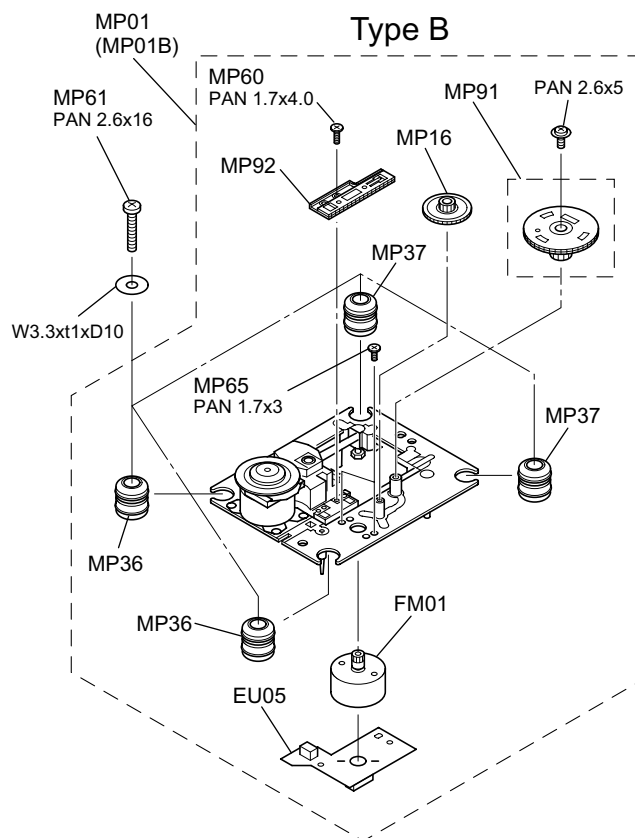


Fig. 4-4-4

5.PARTS LIST

LOCATION	PART	
NUMBER	NUMBER	DESCRIPTION
- MECHANICAL PARTS -		
MC01	79070416	Chassis Assy,Mechanism
! MP01	79070489	Mechanism Assy,Pickup,PVR202T-W
! MP01	79070470	Mechanism Assy,Pickup,PVR202T
MP36	79070458	Rubber,Dumper Kit
MP37	79070458	Rubber,Dumper Kit
W102	79080145	Cable,Flexible FFC,4P,L120
W302	79080256	Cable,Flexible FFC,18P,L90
W501	79080273	Cable,Flexible FFC,23P,L297
W502	79080192	Cable,Flexible FFC,6P,L110
W503	79080193	Cable,Flexible FFC,8P,L85
W603	79080279	Cable,Flexible FFC,18P,L120
W901	79080236	Cable,Flexible FFC,26P,L120
ZF01	79078074	Remote Control Unit,SE-R0058
! ZF10	79077161	Owners Manual English/French,SD-3750
! ZF10	79077163	Owners Manual English/French,SD-K700
! ZF11	79077162	Owners Manual Spanish
ZF20	79070037	Cable,AV
! ZF23	79088007	Power Cord
ZG01	79071215	Front Panel(Black) SD-3750
ZG01	79071216	Front Panel(Black) SD-K700
ZG03	79071217	Panel,Tray(Black)
ZG09	79071211	Key,Cursor(Black)
ZG09A	79089157	Switch,Tact RDSY0010
ZG20	79073035	Cover,Top
ZG20	79073055	Cover,Top
ZG26	79073038	Foot Assy Front
! ZG27	79070469	Label,Caution
ZZ03	79080074	Kit,Data Update

LOCATION NUMBER	PART NUMBER	DESCRIPTION	LOCATION NUMBER	PART NUMBER	DESCRIPTION
		- ELECTRICAL PARTS -			
EU01	79083106	PC Board Assy Main	D831	79060080	Diode AK06
		- INTEGRATED CIRCUITS -	D832	79060027	Diode, Zener UZ12BSB
IC301	79040007	IC TC7S08F	D833	79060027	Diode, Zener UZ12BSB
IC302	79040007	IC TC7S08F	D834	79060005	Diode, Zener UZ11BSB
IC303	79040007	IC TC7S08F	D835	79060007	Diode, Zener UZ3.0BSB
IC304	79040248	IC S-80145CLMC-J16	D836	79060012	Diode ERA15-02
IC305	79040356	IC W986432DH	D838	79060029	Diode, Zener 6.8V
IC307	79040357	IC S-24C02AFJA-TB	D839	79060029	Diode, Zener 6.8V
IC309	79040355	IC MBM29LV160BE90	D840	79060029	Diode, Zener 6.8V
IC310	79040361	IC MPC2948T	D841	79060012	Diode ERA15-02
IC311	79040247	IC S-814A33AUC-BCX			- CAPACITORS -
IC312	79040354	IC TC74VHCT244AFTE	! C801	79020198	Cap, Film 10000pF M 275V
IC313	79040354	IC TC74VHCT244AFTE	! C802	79020198	Cap, Film 10000pF M 275V
IC401	79040282	IC TC94A03F	! C803	79020190	Cap, Ceramic 100pF M 250V
IC402	79040323	IC M11B11664A-30T	! C804	79020190	Cap, Ceramic 100pF M 250V
IC501	79040006	IC TC7S04F	! C811	79020190	Cap, Ceramic 100pF M 250V
IC502	79040296	IC TA1323F			- MISCELLANEOUS -
IC503	79040324	IC BA5813FM-E2	! F801	79087008	Fuse 1.6A, 125V
IC901	79040227	IC PLL1700E-T	! F821	79087013	Fuse 3.00A, 125V
IC902	79040249	IC TC7SH08FU	! F822	79087009	Fuse 3.50A, 125V
IC903	79040325	IC S-814A50AUC-BD0	! F823	79087009	Fuse 3.50A, 125V
IC904	79040249	IC TC7SH08FU	! P802	79089023	Jack AC Inlet
		- TRANSISTORS -	! RF821	79030015	Res, Fusible 2.2ohm J 1/4W
Q301	79050018	Transistor, Chip 2SA1162	! RF822	79030125	Res, Fusible 3.9ohm J 1/4W
Q302	79050018	Transistor, Chip 2SA1162	! T801	79010025	Line Filter 183Y0R5
Q303	79050018	Transistor, Chip 2SA1162	! T802	79010026	Power Transformer SRW3020ED5-210
Q304	79050018	Transistor, Chip 2SA1162			
Q305	79050018	Transistor, Chip 2SA1162	EU03	79081099	PC Board Assy Front
Q306	79050018	Transistor, Chip 2SA1162			- INTEGRATED CIRCUITS -
Q307	79050043	Transistor, Chip RN1402	IC101	79040358	IC TMP87CH75F-3D68
Q308	79050001	Transistor, Chip RN2402			- DIODES -
Q309	79050043	Transistor, Chip RN1402	D103	79060022	Diode, Chip 1SS368
Q401	79050085	Transistor, Chip 2SC3326-B			- MISCELLANEOUS -
Q501	79050015	Transistor, Chip HN1B01F	A101	79089107	Display, FL 20U47100SAN
Q502	79050015	Transistor, Chip HN1B01F	BZ101	79089156	Buzzer PKM13EPY
Q503	79050079	Transistor, Chip 2SA1213-Y	MT101	79089146	Module, RMT GP1U261XK
Q504	79050043	Transistor, Chip RN1402	S101	79089020	Switch Push
Q505	79050014	Transistor, Chip HN1C03F	S102	79089020	Switch Push
		- DIODES -	S103	79089020	Switch Push
D501	79060022	Diode, Chip 1SS368	S105	79089020	Switch Push
D502	79060022	Diode, Chip 1SS368	S106	79089020	Switch Push
		- MISCELLANEOUS -	S107	79089020	Switch Push
X401	79089155	Oscillator, Ceramic 22.58MHz	S108	79089020	Switch Push
X901	79089003	Oscillator SMD49, 27MHz	S109	79089020	Switch Push
			S110	79089020	Switch Push
			S111	79089020	Switch Push
			X101	79089095	Oscillator, Ceramic 8MHz
! EU02	79085082	PC Board Assy Power			
		- TRANSISTORS -	EU04	79081098	PC Board Assy Power Switch
! Q801	79050095	Transistor FS5KM-16A			- TRANSISTORS -
! Q802	79040327	IC TA1319AP	Q107	79050001	Transistor, Chip RN2402
! Q803	79050041	Photo Coupler TLP621(GR)			- DIODES -
! Q804	79050041	Photo Coupler TLP621(GR)	D106	79060092	Diode, LED EL31051VRT
Q821	79040146	IC TA76431S			- MISCELLANEOUS -
Q822	79050076	Transistor 2SA1585STP-Q	S113	79089020	Switch Push
Q823	79050076	Transistor 2SA1585STP-Q			
Q824	79050077	Transistor 2SC1740STP-Q	EU05	79085088	PC Board Assy Output
Q825	79050040	Transistor 2SA1048-Y			- INTEGRATED CIRCUITS -
Q826	79050097	Transistor 2SC3243	ICX01	79040360	IC BH7863FS-E2
Q827	79040288	IC PQ05RD11	ICY01	79040359	IC AD1833AST
Q828	79040289	IC PQ3RD13	ICY02	79040325	IC S-814A50AUC-BD0
Q829	79040289	IC PQ3RD13	ICY03	79040044	IC NJM4580E
Q830	79050008	Transistor RN1201	ICY07	79089159	IC TOTX179
		- DIODES -	ICY09	79040074	IC TC74HCU04AF
! D801	79060016	Diode ERA15-06	ICY13	79040325	IC S-814A50AUC-BD0
! D802	79060016	Diode ERA15-06			- TRANSISTORS -
! D803	79060016	Diode ERA15-06	QX02	79050078	Transistor, Chip DTC114EKA-T
! D804	79060016	Diode ERA15-06	QX04	79050078	Transistor, Chip DTC114EKA-T
D805	79060009	Diode RU-1P	QX16	79050031	Transistor, Chip DTA114EKA
D806	79060013	Diode AG01	QY01	79050001	Transistor, Chip RN2402
D807	79060080	Diode AK06	QY07	79050001	Transistor, Chip RN2402
D808	79060029	Diode, Zener 6.8V	QY13	79050012	Transistor, Chip RN4601
D821	79060010	Diode RK46	QY14	79050043	Transistor, Chip RN1402
D822	79060010	Diode RK46	QY16	79050001	Transistor, Chip RN2402
D823	79060010	Diode RK46	QY19	79050014	Transistor, Chip HN1C03F
D825	79060008	Diode RU2YX	QY27	79050014	Transistor, Chip HN1C03F
D826	79060013	Diode AG01			- DIODES -
D827	79060013	Diode AG01	DX01	79060028	Diode, Chip 1SS226
D829	79060012	Diode ERA15-02	DX03	79060028	Diode, Chip 1SS226
D830	79060080	Diode AK06	DY01	79060022	Diode, Chip 1SS368
			DY04	79060022	Diode, Chip 1SS368
			DY05	79060022	Diode, Chip 1SS368

LOCATION NUMBER	PART NUMBER	DESCRIPTION	LOCATION NUMBER	PART NUMBER	DESCRIPTION
		- MISCELLANEOUS -			
JX01	79089160	Jack, Video			YKC22-0535
JX02	79089163	Jack, Video			YKC21-8038
JY01	79089162	Jack, Audio, 2CH			YKC21-4042
JY03	79089161	Jack, Audio, Digital			YKC21-3895
SX01	79089158	Switch, Slide			SSAA110200

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